EFFECTIVENESS OF PEER MEDIATED TEACHING ON KNOWLEDGE REGARDING HAZARDS OF PLASTIC USE AMONG SCHOOL CHILDREN IN A SELECTED SCHOOL, SALEM.

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A DISSERTATION SUBMITTED TO

THE TAMILNADU DR. M.G.R. MEDICAL UNIVERSITY, CHENNAI,

IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR THE

DEGREE OF MASTER OF SCIENCE IN NURSING

(CHILD HEALTH NURSING)

APRIL – 2012

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ACKNOWLEDGEMENT

We are thankful for the blessings, Lord, you give as day by day; now help us show our gratitude by walking in your way……

As a prelude I give thanks to the **Lord God Almighty,** for acknowledging that I am poor and needy and blessing me with strength and knowledge to endure throughout the completion of this study.

I am grateful to **Dr.K.Arthanari, M.S., Managing Trustee,** Sri Gokulam College Of Nursing for giving me an opportunity to study in this esteemed institution.

I express my sincere thanks to the dynamic personality **Prof.Dr.A.Jayasudha,Ph.D.(N)., Principal,** Sri Gokulam College of Nursing, Salem who affects eternity and can never tell when her influence stops, for her guidance and support throughout the study.

My heartfelt thanks to **Prof.Dr. K Tamizharasi, Ph.D (N)., Vice Principal**, Sri Gokulam College of Nursing, Salem who views young people not as empty bottles to be filled but candles to be lit, for her patient guidance and valuable suggestions.

A heart that never hardens, a temper that never tries, a touch that never hurts are the attributes of my guide **Mrs. E.Nagalakshmi, M.Sc (N).,Associate Professor and HOD, Department of Paediatrics** who with fortitude helped me throughout this study.

I express my heartfelt thanks to **Dr.R.Ramalingam, M.D., DCH., FAAP., Consultant Paediatrician,** Sri Gokulam Hospital, Salem for his guidance and contribution to the study.

It is the supreme art of the teacher to awaken joy in creative expression and knowledge, I owe my deepest gratitude to **Mrs.S.Kalaiselvi, M.Sc (N).,**

Mrs.K.Kala, M.Sc(N)., Mr.Sudhakar A, M.Sc (N)., Ms.Benita, M.Sc(N)., and Mrs. Sagunthala R, M.Sc(N)., for their novel guidance and support.

I am obliged to thank our class co-ordinator **Prof. Lalitha P Vijay, M.Sc(N)., HOD, Department of Psychiatry**, a truly special teacher who is very wise and sees tomorrow in every child's eyes.

My convivial thanks to the **Medical** and **Nursing Experts** who validated the tool and gave me constructive suggestions.

One can pay back the loan of gold, but one dies forever in debt to those who are kind. I am indebted to **All the Faculty** of Sri Gokulam College Of Nursing for the kindness they showed, in helping me complete this study.

Its my privilege to thank the **Dissertation Committee** for their valuable suggestion and approval of my study.

I am thankful to **Mr.Jayaseelan, M.Sc Librarian** of Sri Gokulam College Of Nursing and the **Librarians** of The Tamilnadu Dr.M.G.R Medical University, Apollo College Of Nursing and Anna Centinary Library for their cooperation in helping me collect the literature.

I express my wholehearted thanks to the **Headmistress** and the **Students** of Government Elementary School, Palampatti without whom this study would not have been possible.

My genial thanks to **Mr.Sam Babu,** Correspondent and **Mr.Sam Jesudasan,** Principal of St.Peter's Matriculation Higher Secondary School, Kodaikanal for editing the study.

I wish to express my amiable thanks to **Dr. T.M.S Chandramani Jebarani,** for editing my Tamil tool.

A very heartwarming gratitude goes to **V.Murugesan,** Shri Krishna Computers, and **Mr.Periyasamy,** Golden Computers, **Mr.Rajesh,** Olympic Xerox, Salem for their tireless novel venture in bringing my study into form.

To my father **Mr. Peter Joseph,** my mother **Mrs. Gracy Peter,** my brother **Mr.Bibin Peter,** and my grandfather **Mr.P.A.John,** my beloved grandmother **Mrs.Mary John,** thank you for being my constant support , when I didn't think, I could cope, thank you for lifting my spirits and letting me know there is hope. Thank you for being the best support.

Friendship is the only cement that will ever hold the world together. I render my deep sense of gratitude to my dear friend, **Ms. Mercy Suguna E** for her patience, support and encouragement through out my study.

My genuine gratitude to my **Friends** and my classmates **'The Falcons'**. Yesterday bought the beginning, tomorrow brings the end and somewhere in the middle we became the best of friends. Thanks for being by my side throughout this venture.

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ABSTRACT

A Study was done To Assess the Effectiveness of Peer Mediated Teaching on Knowledge regarding Hazards of Plastic use among School Children in a Selected School, Salem. A quantitative evaluative research approach with pre-experimental (one group pre test post test) design was conducted among 66 school children in 5^{th} and 6^{th} standard, who were selected by Non probability convenience sampling technique from Government Elementary School, Palampatti, Salem. Data was collected from 11.7.2011 to 07.08.2011. A closed ended questionnaire was used to assess the knowledge of the school children and based on the pre test scores the top 6 children were selected as the peer educators and were taught about the hazards of plastic use by the investigator and they in turn taught their peer group from the next day onwards under the direct supervision of the investigator. On the 7^{th} day post test was conducted to assess the knowledge of the school children on hazards of plastic use. Data was analyzed by using descriptive and inferential statistics.

Pre test level of knowledge regarding hazards of plastic use, shows that similar percentage of children 30(50%) had inadequate knowledge and moderately adequate knowledge and none of them had adequate knowledge. During post-test all of the children 60(100%) had adequate knowledge. The overall pre test knowledge was 7.11 ± 0.99 which is 31.3% and the post test mean score was 18.35 ± 0.04 which is 83.4% revealing a difference of 51.09%. Highly significant difference found between pre and post test scores of level of knowledge in all the areas and in the overall level of knowledge at $P<0.001$ level ($t = 33.58^{**}$). There was no significant association between the level of knowledge of school children and their selected demographic variables at $P<0.05$ level. The study implies that the peer mediated teaching on level of knowledge of school children regarding hazards of plastic use was an effective intervention to increase the knowledge of children.

CHAPTER I

INTRODUCTION

"Thank God, Men Cannot Fly and Lay Waste the Sky as Well as the Earth"

- Henry David Thoreau

Man was in search of luxury in life and wanted something that would make his life more comfortable. In this progress he invented plastic. Plastic bags are so light and strong that they can carry normal weight, they are cheap and can be used in all types of shops like bakeries, medical shops, grocery stores, hotels, etc in our daily life. People are so used to it, that they find it very difficult to part with it. Plastic was then used in large scale and started to replace natural resources like jute. **(Stein R.S, 2002)**

Plastic bags have made it possible for people to go without bags to the market or to work place as these bags are available when for asking and can be thrown without a second thought**.** The next time you do shopping and carry home the things in a cute, comfy plastic carry bag, think you are contributing your share to a deadly pollution whose ill effects are irreversible and capable of reaching out to numerous generations to come. **(Thomas Ann, 2006)**

Plastic pollution is one of the worth-mentioning aspect concerning environmental issues of today to the outside world and a potential threat as well. Toxic plastic pollutes the entire environment, kills wild animals, poisons the seafood and sea floor, poses serious health hazards and could even exacerbate global warming. Even it could be creating new creatures that don't actually suit living beings down to the ground. Under these circumstances, the problem of plastic pollution is serious and requires further urgent study. **(Muhammad Selim Hossain, 2008)**

Reviewing close to 700 studies, the scientists determined that people are regularly exposed to Bisphenol A (BPA) levels that exceed those harmful to lab animals, singling out infants and foetuses as the most vulnerable. National Institute of Health conducted a study and found at uterine damage caused by BPA exposure in newborn animals which is predicted to host of reproductive disorders in women. **(Elton Jeremy, 2008)**

"Stop Using Plastics, and create a greener environment". Plastic bags and bottles, like other types of plastic, create significant environmental and economic burdens. They use huge amounts of energy and other natural resources, degrading the environment in numerous ways. In addition to using up fossil fuels and other resources, plastic products generate waste, hurt marine life, and threaten the basis of life on earth. There is over 45 million tons of plastic wastes per year, a trivial fraction of which is getting recycled. All of us can take some steps that can take to reverse the tide of toxic, non-biodegradable pollution so that it will not overtake our planet. **(Karmayog, 2011)**

Chemical contamination in the environment affecting public health is increasing in number of communities across the world. The role of the community health nurse is vital in creating awareness to public about the hazards of the environmental pollutants. **(Yadav, 2002)**

Education helps to alleviate ignorance in mankind and specially in children. Peers are the most influencing people in this age group and their influence makes much difference in the lives of the children. It is essential to teach the school children about the hazards of plastic use so as to make a greener and better environment**.** **(Cooper Cyrus, 2004)**

Need for the Study

The concept of peer mediated or child to child teaching was started in the Institute of child health, London. Peer approach is a powerful idea. It rests on the belief that children can have the skill and the motivation to educate and assist to each other and can be trusted and encouraged to do so. This is a radically new view of the potential for education. Such helping and caring activities are called child to child activities. So this programme will change one's views of the educational processes and systems we have. It helps the child to make learning a relevant meaningful and enjoyable experience for the children. It enables the children in making qualitative improvements in the life of their siblings, parents, and neighbors. Schools must make fundamental changes in the way children learn. **(David Morley, 2009)**

The number of children being enrolled in schools has increased considerably over 2009 .In India 96.5% of children between 6-14 years are enrolled in schools while in Tamilnadu the rate has increased from 19.6% in 2004 to 25% in 2011. (**Annual Survey Report, 2011)**

The World Wide Fund for Nature 2010 reported that, roughly 1.5 million tons of plastic are expended in the bottling of 89 billion liters of water cans each year. **(Mumbai Times, 2010)**

Plastic bags are destructing the life of India and that's just how the plastic industry wants it. Non degradable plastic bags are poisoning and clogging up India's towns and cities. But solutions are hard to come by largely due to political influence of India's plastic industry. **(Robert Edwards, et.al., 2009)**

Even though plastic bags can preserve food and can be used for growing vegetables in a controlled environment, their method of disposal creates unprecedented pollution problem. It has been observed that the animals eating the

bags sometimes even die. Plastic goes into the ocean which is already a plastic infested body of water ways, sea animals misunderstanding plastic garbage as food items and swallow them. **(Krishnamoorthy.V, 2009)**

Plastic bags have harmful effects on soil, air and water. Plastic causes infertility of the soil and also helps the bacteria to flourish, when burnt it lets out noxious flames and poisonous gases and also has disastrous effects on the species living underwater. Plastic which are picked up from garbage's are recycled but they retain a lot of bacteria which cannot be destroyed at all. **(The International Rice Research Institute, 2009)**

Childhood is the prime time of life, children explore and learn many things around them and they try to impart many things into practice. Peers and friends are also an important asset for the children. Children are the future adults. They can very well be stated as the miniature adult. As responsible adults we need to preserve the beauty of the environment with a safe atmosphere for the future generations. Concerning children's environmental health, the expanded role of the nurse includes a wide range of activities, such as anticipatory guidance, health education, mass health campaigns, school health programs and environmental health research**.** Education aims at behaviour modification and peer influence makes it more influential hence teaching the little children about the hazards of plastic use and its prevention we can help them to bring about changes and thereby have a safer and greener world to live in.

Statement of the Problem

A Study To Assess the Effectiveness of Peer Mediated Teaching on Knowledge regarding Hazards of Plastic use among School Children in a Selected School, Salem.

Objectives

1. To assess the existing knowledge on hazards of plastic use among school children.
2. To determine the effectiveness of peer mediated teaching on the knowledge regarding hazards of plastic use among school children.
3. To associate the knowledge regarding hazards of plastic use among school children with their selected demographic variables.

Operational Definitions

Effectiveness:

Significant gain in knowledge of school children regarding hazards of plastic use as determined by significant difference in pre and post test scores measured using a closed ended questionnaire.

Peer Mediated Teaching:

It is a program where trained students teach the students of the same age group on hazards of plastic use using flash cards.

School Children:

Children studying in the selected school between 10 to 12 years of age group.

Assumption

1. School children may have some knowledge on hazards of plastic use.
2. Knowledge will vary from individual to individual.
3. Peer mediated teaching may have some effect on the knowledge of hazards of plastic use among the school students.

Hypotheses

H_1: There will be significant difference between pre-test and post test knowledge scores of school children regarding hazards of plastic use at $P<0.05$ level.

H_2: There will be a significant association between the level of knowledge of school children regarding hazards of plastic use and their selected demographic variables at $P < 0.05$ level.

Delimitations

The study will be limited to

1. Children in the age group of 10 – 12 years.
2. School children available at the time of data collection at a selected school Salem.
3. Data collection period is limited to 4 weeks.

Projected Outcome

This study was conducted to assess the effectiveness of a peer mediated teaching on knowledge regarding hazards of plastic use among school children. Findings of this study will help the nurses practicing in the community during the school health programme to create awareness in the little minds and to make a better earth for the future children.

Conceptual Framework

Conceptual framework is a type of intermediate theory that has the potential to connect all aspects of enquiry. They take different forms depending upon the research question of problem.

The present study is based on the concept of **J.W. Kenny's open system model.** According to J.W. Kenny all living system are open. They are in continuous exchange of matter, energy and information, which results in varying degree of interaction with the environment from which the system receives input and gives output in the form of matter, energy and information.

Input:

Input can be matter, energy and information from the environment. In the present study the environment refers to school setup and input refers to the collection of demographic data from samples and assessing the level of knowledge on hazards of plastic use by using questionnaire.

Throughput

The matter, energy and information are continuously processed through the system which is also called complex transformation, known as throughput process is used for input (i.e.) energy and information for the maintenance of homeostasis of system. It refers to the different operational products in the overall programme implementation and includes factors that facilitate or block implementation at various stages. In the present study the throughput refers to pre test, education to the peer educators, peer mediated teaching to the recipients and post test.

Output

After processing the input and throughput, the system returns to the output matter, energy and information to the environment in an altered state. Change is a feature of the process that is observable and measurable as output which should be different from that which is entered into the system. In the present study gain in level of knowledge regarding hazards of plastic use is considered as output.

Feedback

Feedback gives information of environmental responses to the system; output is utilized by the system in adjustment, correction and accommodation to the interaction with the environment. In the present study, effectiveness of peer mediated teaching is considered as difference in mean percentage and testing hypotheses.

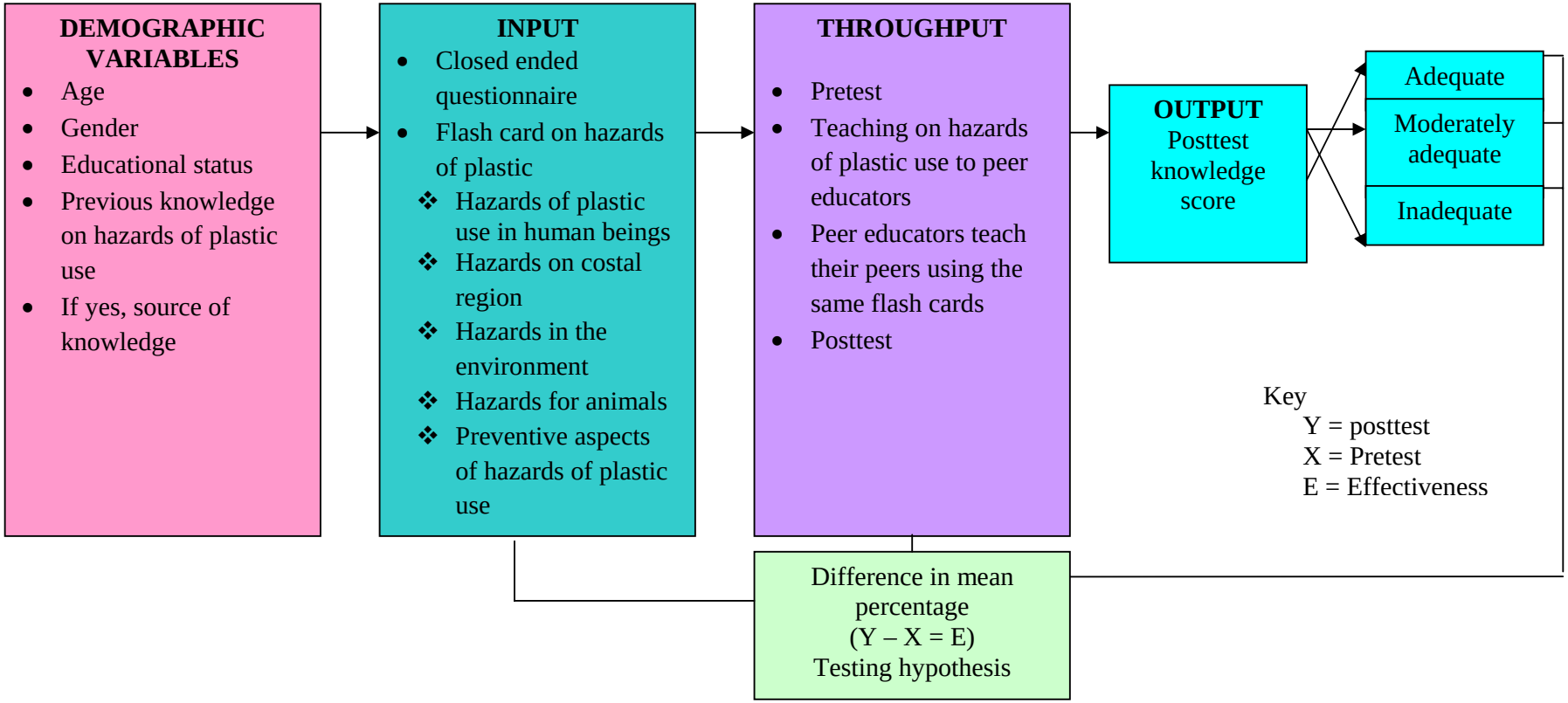

FIGURE- 1.1: CONCEPTUAL FRAMEWORK BASED ON J.W.KENNY'S OPEN SYSTEM MODEL FOR PEER MEDIATED TEACHING ON LEVEL OF KNOWLEDGE OF SCHOOL CHILDREN REGARDING HAZARDS OF PLASTIC USE

Summary

This chapter dealt with introduction, need for study, statement of the problem, objectives, operational definitions, assumptions, hypotheses, delimitations, projected outcome and conceptual framework.

CHAPTER II

REVIEW OF LITERATURE

This chapter presents review of related literature relevant to the present study. Review of literature is an important step in the development of the research project in broadening, understanding and developing an insight into the problem area. It further helps in the problem fits, methodology instruction of tool, development of evaluative approach and analysis of data.

Literature was reviewed theoretically, empirically and is organized under the following headings,

- Literature related to hazards on plastic use.
- Studies related to hazards on plastic use.
- Literature related to peer mediated teaching.
- Studies related to peer mediated teaching.

Literature Related To Hazards On Plastic Use:

The hazards that plastics pose are numerous. The land gets littered by plastic bags, and the plastic wastes present an ugly and unhygienic seen. The "Throw away culture" results in these bags getting in to the city drainage system and blocking the drains causing inconvenience, difficult in maintaining the drainage with increased cost, creates unhygienic environment resulting in health problems and spreads diseases. These water also reduces rate of rain water percolating, resulting in lowering of already low water levels everywhere. The fertility of soil deteriorates as the plastic bags from part of manure remains in the soil for years. **(Bhatia, 2009)**

The main sources of plastic pollutants are the polythene bags found everywhere. Besides this the broken home appliances made of plastics, broken plastic chairs and furniture’s mainly contribute to the waste materials. The industries

producing plastic materials also release plastic waste materials into the land and water sources.Plastic causes many setbacks for human beings and environment by creating an unaesthetic appearance in the public places and residential areas. They re lightweight and hence fly and land in garbage's and drains and thereby causing distress during monsoon. the colouring element of plastics even disperse in to the ground water and contaminate it**. (Kamala V, 2009)**

Amidst the 47 chemical plants ranked highest in carcinogenic emissions by the Environmental Protection Agency (EPA), 35 are said to be involved in plastic production. Certain plastics such as polyvinyl chloride (PVC), used for indoor and outdoor plumbing, electrical cables and countless other products. The municipal incinerators and fire accidents are potential sources of the highly toxic dioxin. Polystyrene foam products are often made with chlorofluorocarbons (CFCs) and hydro chlorofluorocarbons (HCFCs), both of which are dangerous to the ozone layer. **(Chandresekar Sunil, 2009)**

The research on plastic does emphasize a need for caution. Special consideration is for phthalates, a toxin that causes plastic to be flexible. It has been proven that these chemicals are leeching into food and beverages. With so many products being sold in these plastic containers, this presents a huge problem. Research has demonstrated that phthalates in plastic do contribute to poor genitalia development in rats, as well as fertility issues in human males. Phthalates also interfere with sperm motility. While this is a major problem for adult men, it also harms babies exposed to phthalates while in the womb, or through bottles or food containers. **(Don Elisher, 2005)**

When burned, plastic releases lots of poisonous chemicals into the air, including dioxin, the most poisonous substance known to science. Apart from these troubles, recycling of plastic is very harmful uneconomical, dirty and labour-intensive, this has been revealed by a study conducted by the Public Interest Research Group, based in Delhi, India. Recycling of plastic causes skin and respiratory problems, resulting from exposure to and inhalation of these toxic fumes, especially hydrocarbons and residues released during the process of manufacturing plastics. What is worse, the recycled plastic degrades in quality and requires the production of more new plastic to make the original product. **(Yadav Kumar, 2005)**

"Plastics" derived their name from their properties to be transformed into a variety of forms, including solid objects, films and toys. These properties arise from their chemical structure. Plastics are polymers with very long chain molecules that further have subunits (monomers) linked together by chemical bonds. The components of plastics are inorganic materials such as styrene and are not biodegradable. **(V.Krishnamoorthy, 2003)**

Studies Related To Hazards On Plastic Use

A descriptive study about the hazards of plastics to the marine environment was conducted at South America and the findings (90%) reveal that the marine life is at the peak of destruction due to the tons of plastics that are thrown as wastes into the seas. **(Kurdi, 2006)**

A study was conducted to find the various hazards of plastics to the environment at the K.C.E Society, Belgium city. Quantitative research method was used and it was found that the fertility of the soil (3.1 ± 0.6) is most affected by the plastics that are discarded. **(Heera, 2005)**

A quantitative study at Boston was conducted to determine the incidence and severity of plastic hazards among industrial workers in a polymer factory. 90 samples were collected over a period of 12 months. The investigator concluded that multiple hazards such as skin (6.5 $\pm$0.87) and gastric problems (7.33$\pm$1.27) can arise with the use of plastic polymers. **(Campbell, 2004)**

A descriptive study was conducted about the incidence of complications and their potential risks of hazards of plastics among 72 workers of a factory at Houston. Convenience sampling was used to select the samples. Data analysis was done using descriptive and inferential statistics. Results revealed that about (6.2 $\pm$2.48) 15.4% of them developed skin disorders. **(Horwood, 2003)**

A study was conducted to assess the effectiveness of peer mediated teaching using videos on plastic hazards at Tokyo among 88 students at a junior college and concluded that the peer mediated teaching was more effective ($t=3.19$ at $P<0.001$ level) in creating awareness on hazards of plastic use. **(Gluk, 2002)**

Literature Related To Peer Mediated Teaching.

School-based peer mediation program is one of the most popular and effective approaches to implement the practice of conflict resolution into schools. From the beginning of the modern "conflict resolution in education" (CRE) movement in the early 1980's, peer mediation has been one of its masterpieces. Many thousands of schools around the globe have implemented peer mediation programs, and these efforts serve almost every conceivable student population **(Bethesda, 2010)**

Peer-mediated instruction and intervention is an alternative classroom arrangement in which students take an instructional role with classmates or other students. Many approaches have been developed in which students work in pairs (dyads) or small cooperative learning groups. To be most effective, students must be

taught roles in the instructional episode, to be systematic, elicit responses, and provide feedback. Research supports the use of these approaches as alternative practice activities, however it does not condone the use of peers for providing instruction in "new" instructional content. **(Hall Tracey, et.al., 2009)**

Peer-mediated interventions have several advantages. A well set up intervention mediated by a peer can free up the teacher to engage in other teaching activities. Instead of cueing and delivering feedback to target students, teachers can focus on academic tasks, help other students in need, or simply have uninterrupted teaching time. Students with a peer support plan actually receive an increase in individualized attention, especially when partnered with a same age appropriate peer. Well-trained peer mediators actually allow the target student to receive more immediate feedback, more often as the mediator is often assigned one student and a teacher usually has several to monitor at one time. Additionally, when the target student is assigned several peer mediators across settings, maintenance and generalization of social skills being reinforced is more likely. **(DuPaul, et.al., 2009)**

Students respond to peer feedback more often than an adult initiated contact in intermediate grades and up. Educators have utilized role reversal interventions where a student who may have behavioral issues acts as a mentor or tutor for a younger student with promising results. Because this capitalizes on the tutor's strengths and promotes responsibility, positive behavioral changes occur through the reverse role tutoring. **(Criscitiello, et.al., 2008)**

Peer mediated interventions emphasize the involvement of typically developing peers as socially competent facilitators to promote appropriate communicative and social behaviors. Peer mediated interventions encompass various teaching strategies and have organized peer mediated interventions into three

approaches according to peer expectancies to promote interaction: (a) manipulation of the situation or contingencies, (b) peer instruction in social interaction strategies, and (c) instruction of target child in initiation strategies. **(Oswald, et.al., 2003)**

Child to child work is based on the belief that children, a large proportion of the world's citizens, can play a positive role in raising the health of the others and by doing so improve their own knowledge and self belief and develop attitudes of caring responsibility for others. **(Patrica Pridome, 2002**)

Studies Related To Peer Mediated Teaching

An evaluation study was conducted to evaluate the effectiveness of child to child programme on level of knowledge regarding prevention of worm infestation among 40 school children selected by simple random sampling in a selected school at Salem. The calculated 't' value was 26.72 which is highly significant at $P<0.001$ level which shows that, child to child programme was effective in increasing the knowledge of the school children. **(Malarvizhi, 2010)**

An ethnographic study on health education with reference to peer mediated teaching was conducted at a selected school in Lucknow. The purpose of the study was to identify specific application of the peer mediated approach in promoting health education among school children. The results ($t = 30.12$ at $P<0.05$ level) indicated that the peer mediated teaching approach can be applied to primary school children to enable pupil to translate the health education knowledge (13.13 ± 1.09) gained at classroom into health promoting practices (18.42 ± 1.16) both at home and at school.**(Chada.M.Gupta, 2008)**

A study was conducted in Austria to assess the effect of peer approach to promote healthy patterns of living in primary school children. 300 students from ten schools were randomly selected and were allocated to intervention and control group.

Peer educators were given training on healthy habits. Children in the intervention group had shown greater gain in the mean knowledge 30.33 than children of the control group with a mean knowledge 21.40. it also revealed that peer mediated teaching was effective ($t=3.72$ at $p<0.001$ level). **(Stowell Joe, 2007)**

An experimental study was conducted to assess the effectiveness of peer to peer approach in promoting the learning efficacy among school children between 6-12 years of age studying at the Vasantham School, Chennai. Quasi experimental study was used and 50 samples were selected. Organized training was given to peer educators. The mean improvement of the level of knowledge mean score, 17.74 ± 0.69 (61.10%) was highly significant at $p<0.05$ level and thereby peer to peer approach showed a definitive improvement. **(Swarnakumari, 2005)**

A two group simple randomized experimental study was conducted to assess the effectiveness of child to child programme on worm infestation among primary school children at a selected school in Coimbatore. 50 samples were selected randomly from fifth and sixth standard. The study findings revealed that the paired 't' test value for the experimental group was 4.66 and the control group was 4.75 at 5% significant level. The effectiveness of child to child programme was also proved with 'z' score ($z=3.3$ at $P<0.05$ level). This shows that there was a significant difference between the knowledge scores of children in experimental and control group and child to child programme was an effective approach in increasing the knowledge of the school children. **(Nagalakshmi, 2004)**

A study was conducted concerning the effect of peer support on health awareness in a selected school at Gwalior. It aimed to determine the effect of peer group teaching on creating health awareness. 80 children were selected as the samples. The children were assessed using a closed ended questionnaire and pretest

and posttest knowledge scores were analyzed using descriptive and inferential statistics, ($t=4.12$ at $p<0.05$ level) which indicated that children revealed more positive attitude with a higher difference in mean percentage of 64% after the peer mediated teaching. **(Anjela, 2003)**

An evaluative study was conducted to create better schools for 200 extraordinary students in which the investigator noted that, peer group plays an important role in child socialization and acceptance by peers can help a child to become well adjusted to the school environment. The investigator also emphasized that classmates usually help each other to resolve big and small problems. **(Deepti Agarwal., 2002)**

There is a vast area of research literature in the areas of peer mediation and tutoring. A meta-analysis on peer mediated teaching was conducted at Armenia, in which over 900 studies on social interdependence were analyzed. It was found that, 164 studies evaluated the impact of a peer mediated teaching procedure on student achievement and concluded that peer mediated teaching had better outcome. **(Stanne, et.al., 2002)**

Summary

This chapter dealt with review of literature and studies related to peer mediated teaching, hazards on plastic use.

CHAPTER III

METHODOLOGY

The methodology of research indicates the general pattern of organizing the procedure for gathering valid and reliable data for the purpose of investigation**. (Polit, D.F, and Hungler, 2003)**

The present study aims to assess the effectiveness of peer mediated teaching on knowledge regarding hazards of plastic use among school children in a selected school, Salem.

Research Approach

Quantitative evaluative research approach was used in this study.

Research Design

Research design is a master plan specifying the methods and procedures for collecting and analyzing the needed information. **(Basavanthappa. B.T, 2003)**

Pre experimental (one group pre test – post test) research design was adopted for this study.

E	**O_1**	**X**	**O_2**

E: Experimental group

O_1: Pre-test

X: Intervention (Peer mediated teaching)

O_2: Post test

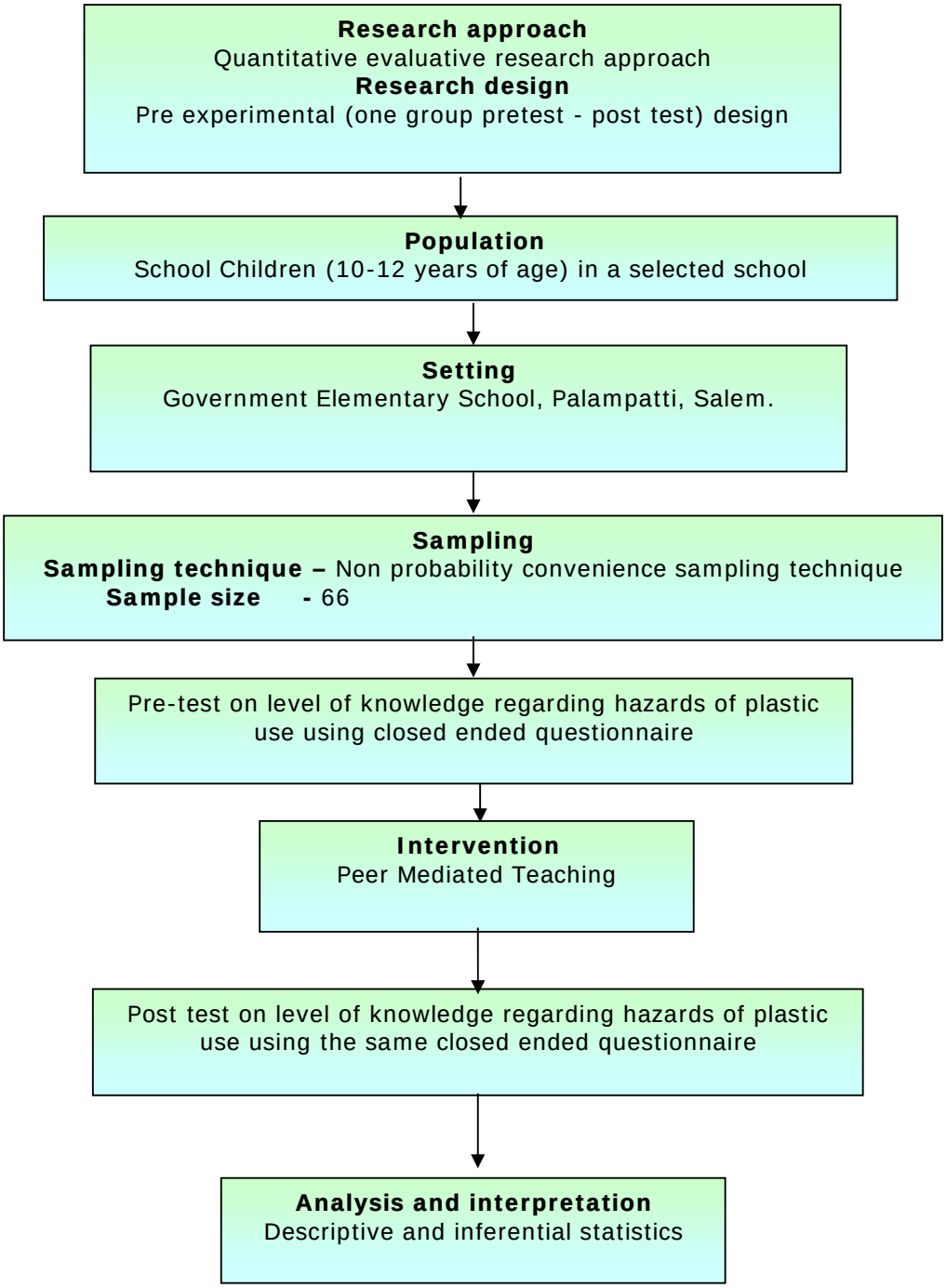

Fig –3. 1: Schematic Representation of Research Methodology

Population

Population is the entire aggregation of cases in which a researcher is interested. **(Polit and Beck, 2004)**

The population of this study were school children aged 10-12 years. There were 74 children studying in 5^{th} and 6^{th} standard in selected school.

Description of the Setting

Setting is the general location and condition in which data collection takes place for the study. **(Polit, F.D, and Hungler. 2003)**

The study was conducted in Government Elementary School, Palampatti, Salem. In this school there are classes from I st standard to VI th standard with a total of 212 students. In the V th and VI th standard there were 74 students. It is 7 km away from Sri Gokulam College of Nursing, Salem. This school was selected based on,

1. Geographical proximity
2. Availability of subjects
3. Economy of time and money access
4. Feasibility in terms of cooperation extended by the headmistress, the school teachers and the school children

Sampling

Sampling is the process of selecting a portion of the population to represent the entire population**. (Polit and Beck, 2004)**

Sample

The sample of the study was those who are studying in Government Elementary School, Palampatti, Salem.

Sample size

The sample size was 66 school children from Government Elementary School, Palampatti, Salem.

Sampling technique

Sampling refers to the process of selecting the portion of population to represent the entire population**. (Polit, D.F, and Hungler, 2003)**

Non-Probability convenience sampling is also known as accidental sampling. The major reason is administrative convenience and the sample is chosen with ease of access being the sole concern. Non-Probability convenience sampling technique was adopted for selecting the samples for the study. The samples were selected based on the availability.

Criteria for Sample Selection

Inclusion criteria

- Children between 10 – 12 years of age
- Available during data collection period
- Willing to participate in the study

Exclusion criteria

- Children in the educating peer group

Variables

Independent variable: Peer Mediated Teaching

Dependent variable: Knowledge on hazards of plastic use

Description of the tool

A closed ended questionnaire was used to assess the knowledge regarding hazards of plastic use. It consists of following sections.

Section-A

It consists of demographic variables such as age, sex, educational status, previous knowledge on hazards of plastic use, if yes the source of previous knowledge.

Section-B

It consists of knowledge items regarding hazards of plastic use under two major divisions such as General aspects on hazards of plastic use and common hazards of plastic use which is further split into 5 sections like hazards on human beings, Hazards on coastal region, Hazards on environment, Hazards on animals and Preventive aspects of hazards of plastic use.

Scoring procedure for level of knowledge

Totally there were 22 items in which general information of hazards of plastic use had 6 items and Hazards on human beings had 4 items, Hazards on coastal region had 3 items, Hazards on animals had 2 items, hazards on environment had 4 items and Preventive aspects had 3 items. Each item had four options of which one is the correct response. All the correct answers were given the score of one and the wrong answers were given the score of zero. The total score for each sample was calculated, converted into percentages and interpreted as follows

Level of knowledge	Score	Percentage
Inadequate	0 – 7	< 32%
Moderately adequate	8 – 14	33 – 64%
Adequate	15 – 22	>65%

Validity and Reliability

Validity

Validity refers to the degree to which an instrument measures what is supposed to be measured **(Polit and Hungler, 1998).**

The questionnaire constructed by the investigator was sent along with statement of the problem, objectives and hypothesis to 8 experts in the field of Medicine and Nursing (1 Pediatrician, 1 Public Health Medicine Expert, 4 Child Health Nursing Specialists, 1 Community Health Nursing Specialists) for validating the tool. Minor modifications were given and incorporated. The tool was translated to Tamil with the help of language experts. Retranslation of the tool was done to establish language validity.

Reliability

Reliability refers to the degree of consistency or dependability with which an instrument measures an attribute. **(Polit and Hungler, 1998).**

Reliability of the tool was established by split half method. It was found r^1=0.9 which showed that the tool was reliable.

Pilot Study

The pilot study was conducted over a period of one week from27.06.11 to 03.07.11 in Government elementary school, Karipatti, Salem. Validity and reliability of the tool were tested during this time. The investigator selected 6 school children, 3 from 5^{th} and 3 from 6^{th} standard students through Non probability convenience sampling technique. Pretest was conducted for the children using a closed ended questionnaire. The top scorer was selected as the peer educator. The investigator taught the peer educator using flash cards and on the next day the peer educator taught his 5 assigned students. Posttest was conducted on the 7^{th} day using the same

questionnaire. The tools administered were checked for its feasibility, language and appropriateness. The children chosen were similar in characteristics to those of the population under the study. The time taken for teaching was 30 minutes. The tool was found feasible, practicable. It also helped to select suitable statistical method.

Method of Data Collection

Ethical consideration

The permission was obtained from Assistant Elementary Educational Officer, Veerapandi, Salem to conduct the study. The study was conducted in Government Elementary School, Palampatti, Salem. The investigator visited the school and got permission from Headmistress and selected the school children who are meeting the inclusion criteria. The verbal consent was obtained from the school children to participate in this study.

Period of data collection

The data collection was done over a period of 4 weeks from 11.07.2011 to 07.08.2011.

Data Collection Procedure

The investigator selected 66 children from 5^{th} and 6^{th} standard students through Non probability convenience sampling technique. Good rapport was maintained with the children. The pre test was conducted with the help of questionnaire to assess the level of knowledge of school children regarding hazards of plastic use which took about 30 minutes.

Then the 6 top scorers of the pretest were selected as the peer educators from 5^{th} standard and 6^{th} standard. The education was given to the peer educators by the investigator regarding hazards of plastic use by using the flash cards. The time taken for teaching was 30 minutes. Then the peer educators were asked to teach to their peers by using flash cards with the supervision of the investigator. Each day 1 peer

educator taught to their 10 assigned students. The time taken to conduct one peer mediated teaching was 30 minutes. The post test was conducted on 7th day after peer mediated teaching.

Plan for Data Analysis

Data will be collected, arranged and tabulated. Frequency and percentage distribution will be used for demographic variables. Paired 't' test will be used to evaluate the effectiveness of peer mediated teaching. Chi-square test will be used to associate the level of knowledge of school going children and their selected demographic variables.

Summary

This chapter dealt with the methodology adopted for this study. It includes the research approach, research design, population, description of the setting, sampling (sample, sample size, sampling technique and criteria for sample selection), variables, description of tool, validity, reliability, pilot study, method of data collection, and plan for data analysis.

CHAPTER IV

DATA ANALYSIS AND INTERPRETATION

Analysis is the process of organizing and synthesizing in such a way that question can be answered and hypothesis tested. **(Polit & Hungler, 2003)**

This chapter deals with analysis and interpretation of data collected to evaluate the effectiveness of peer mediated teaching on level of knowledge of school children regarding hazards of plastic use, Salem.

The findings are presented under the following sections

Section-A:

Distribution of school children according to their demographic variables.

Section-B:

Pre test level of knowledge of school children regarding hazards of plastic use.

Section-C:

a) Comparison of pre and posttest level of knowledge of school children regarding hazards of plastic use.
b) Area wise comparison of Mean, SD, Mean percentage and difference in mean percentage of pre and post test knowledge of school children regarding hazards of plastic use.
c) Comparison of Mean ,SD, Mean percentage and difference in mean percentage of pre and post test knowledge scores of school children with their selected demographic variables.

Section-D: Hypotheses Testing

a) Effectiveness of peer mediated teaching on knowledge of school children regarding hazards of plastic use.
b) Association between the level of knowledge of school children regarding hazards of plastic use and their selected demographic variables.

Section-A

Distribution of school children according to their demographic variables

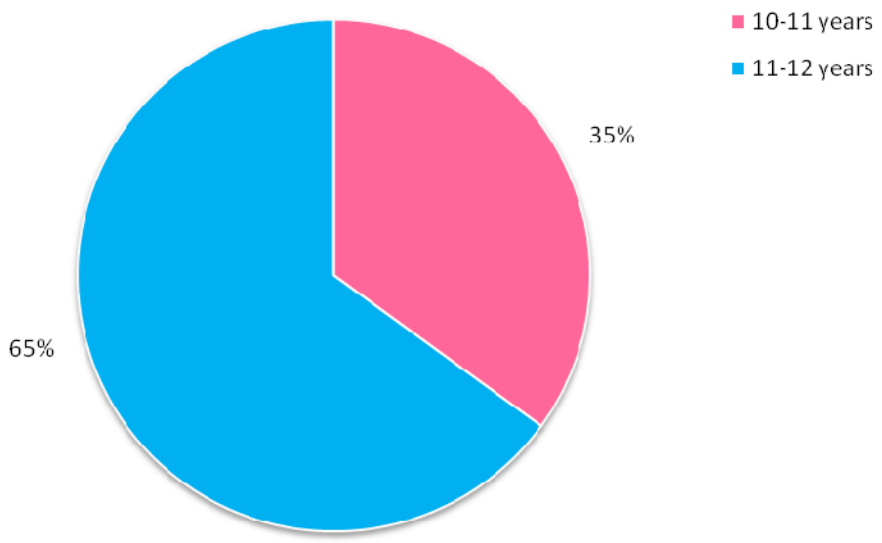

Fig-4.1: Percentage distribution of school children according to their age

The above figure shows that, majority of the school children 39(65%) were in the age group of 10-11 years and 21 children (35%) were in the age group of 11-12 years.

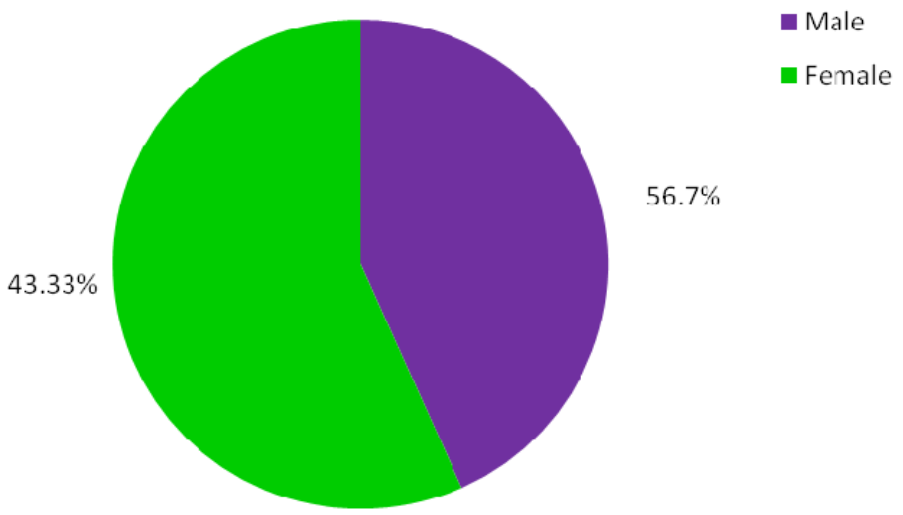

Fig-4.2. Percentage distribution of school children according to their sex

The above figure depicts that, majority of the children 34(56.7%) were females, when compared to males who were 26(43.33 %)

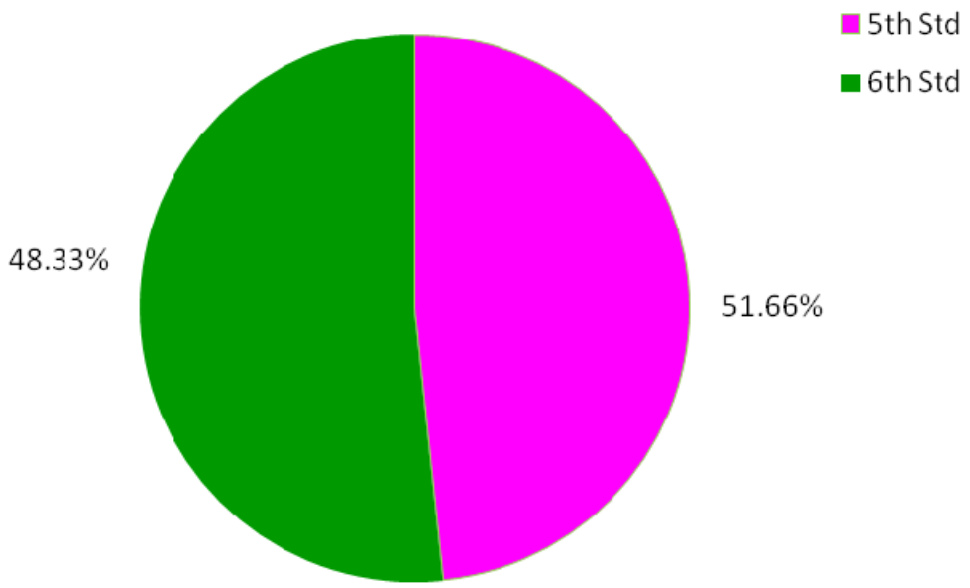

Fig-4.3: Percentage distribution of school children according to education

The above figure depicts that, more or less similar percentage of children 31(51.66%) were in the sixth standard and 29 (48.33%) were in the fifth standard.

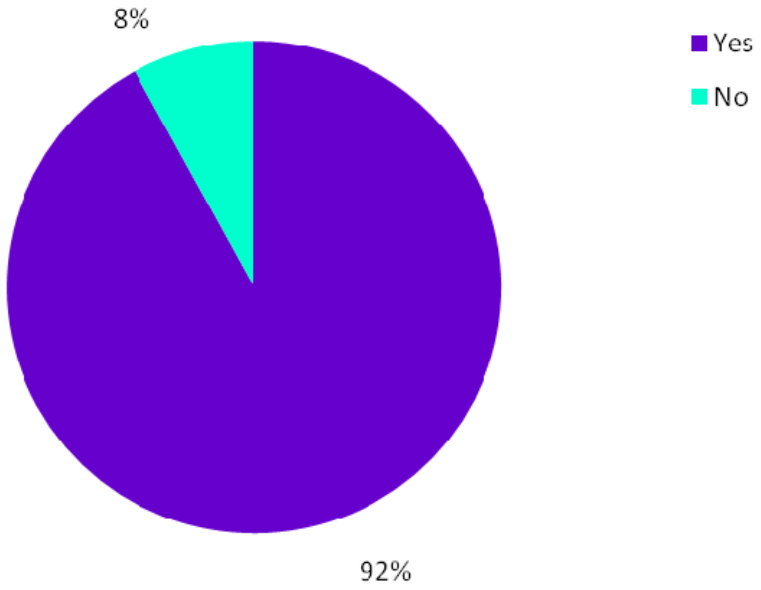

Fig-4.4: Percentage distribution of school children according to their previous knowledge on hazards of plastic use

The above figure depicts that, most of them 55(92%) had previous knowledge on hazards of plastic use and only 5 children (8%) did not have previous knowledge on hazards of plastic use .

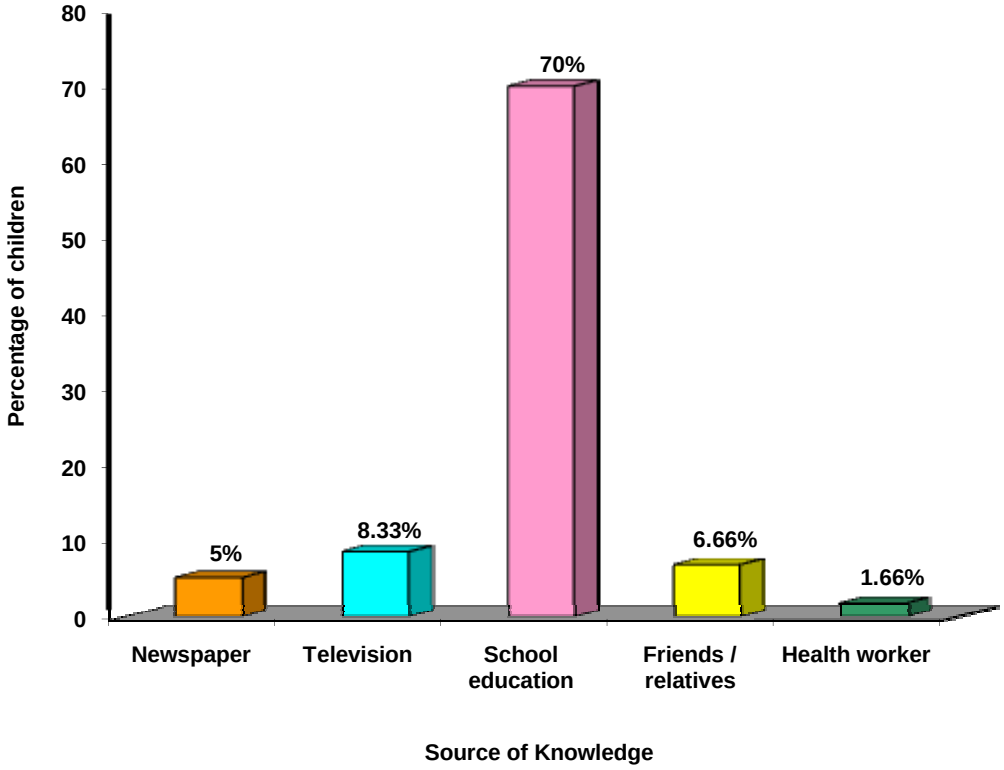

Fig-4.5: Percentage distribution of school children according to the Source of Knowledge

The above figure shows that, among the children who have previous knowledge on hazards of plastic use (n=55), majority 42(70%) of them gained by school education, 5 of them (8%) had gained through television, 4(6.66%) received information from their friends and relatives, 3 of them (5%) had gained knowledge through newspapers, and 1 (1.66%) had got information from health workers. This reveals that majority of school children had information from school education.

Section-B

Level of knowledge of school children regarding hazards of plastic use before administration of peer mediated teaching

Table-4.1:

Percentage distribution of samples according to the pretest level of knowledge of school children regarding hazards of plastic use

n=60

Level of knowledge	Pre test	
	Frequency (f)	Percentage (%)
Inadequate knowledge	30	50
Moderately adequate knowledge	30	50

The above table shows that, similar percentage of children 30(50%) had inadequate knowledge and moderately adequate knowledge and none of them had adequate knowledge. This reveals that children need information regarding hazards of plastic use.

Section-C

a) Comparison of Pre and Post test level of Knowledge of School children regarding Hazards of Plastic use.

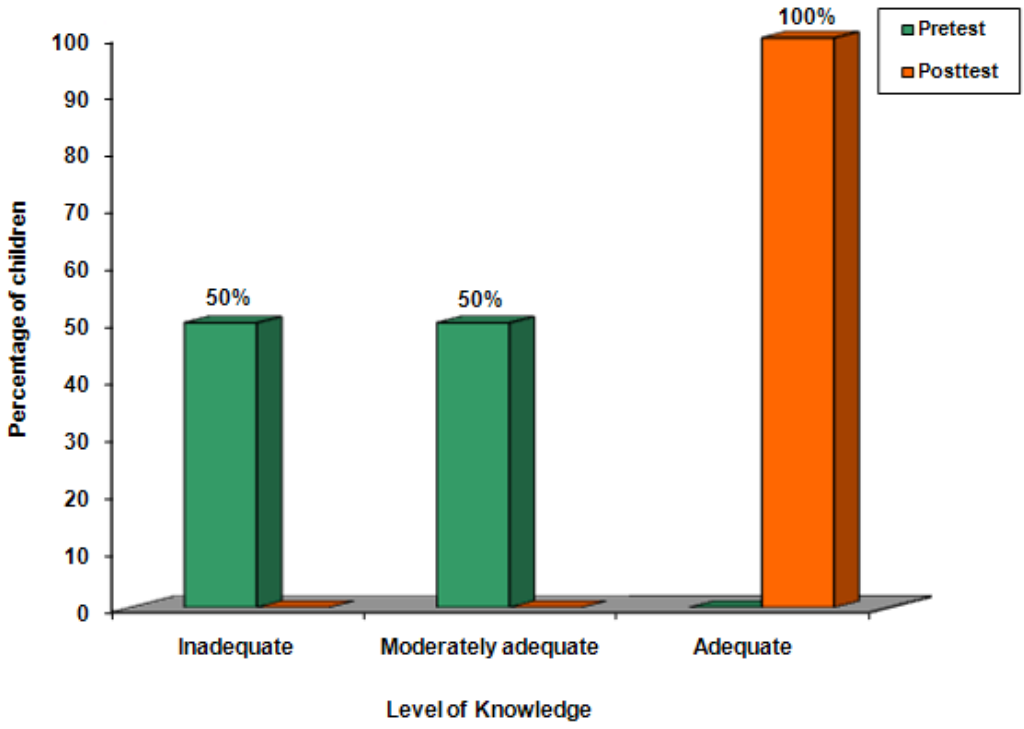

Fig-4.6: Percentage distribution of school children according to their pre and post test level of knowledge regarding hazards of plastic use

The above figure shows that, during pre-test similar percentage of children 30 (50%) had inadequate knowledge and moderately adequate knowledge and none of them had adequate knowledge. During post-test all of the children 60(100%) had adequate knowledge .

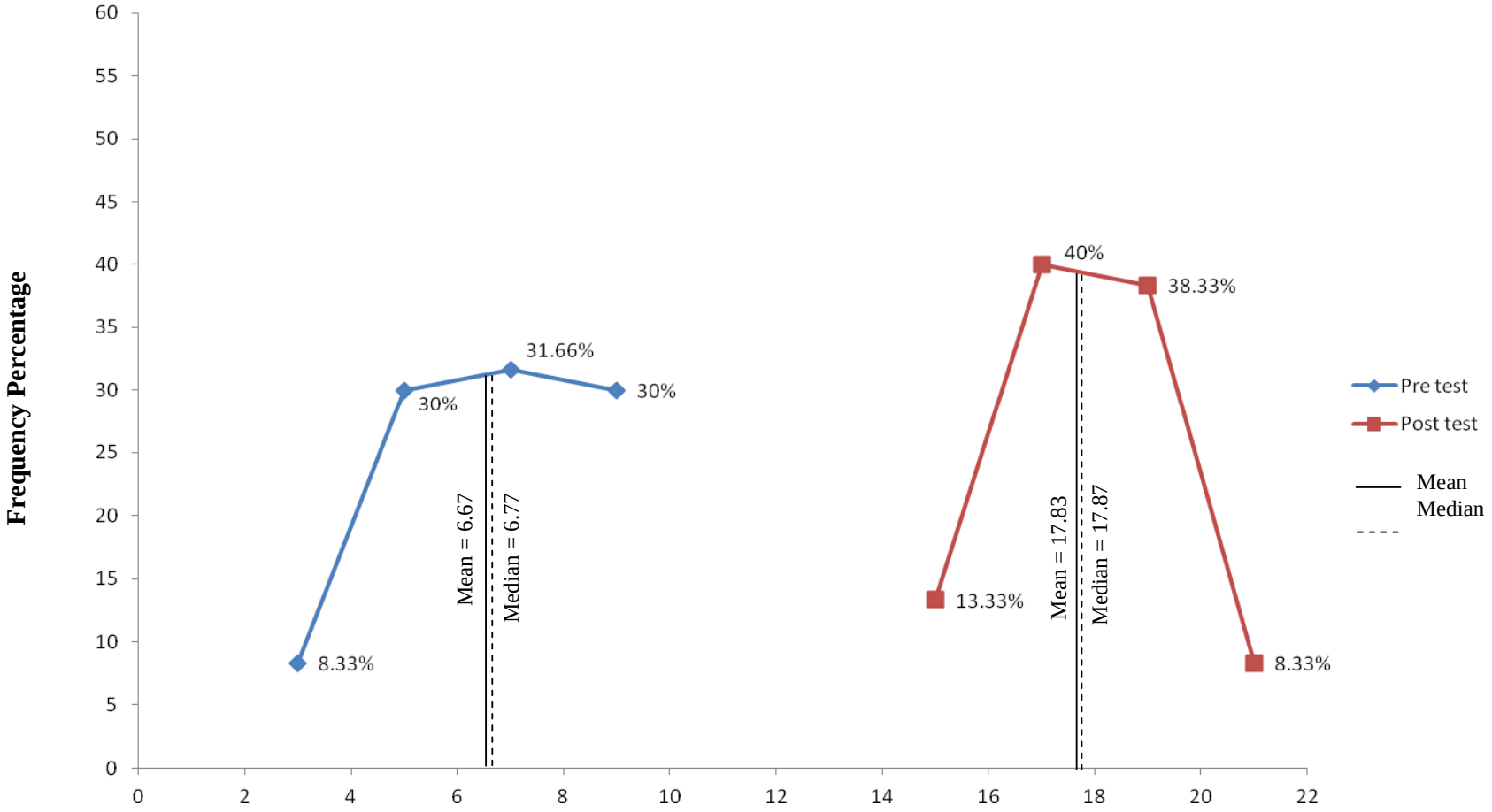

Fig. 4.7: Line graph showing comparison between pre and post test knowledge scores of school children regarding hazards of plastic use.

Line graph showing the comparison of pre and posttest knowledge shows that the lowest score of pretest is below 4, where as for posttest, it is below 16, During pre test highest percentage (31.66%) of children's score ranged between 6 -8 where as during the posttest 40% of children's score ranged between 16 – 18. Further the lowest score of post test is higher than the highest score of pre test.

The mean and median plotted on the graph shows that the pretest score are 6.67 and 6.77 respectively. However during the posttest, values are 17.83 and 17.87 respectively. (Figure 4.7)

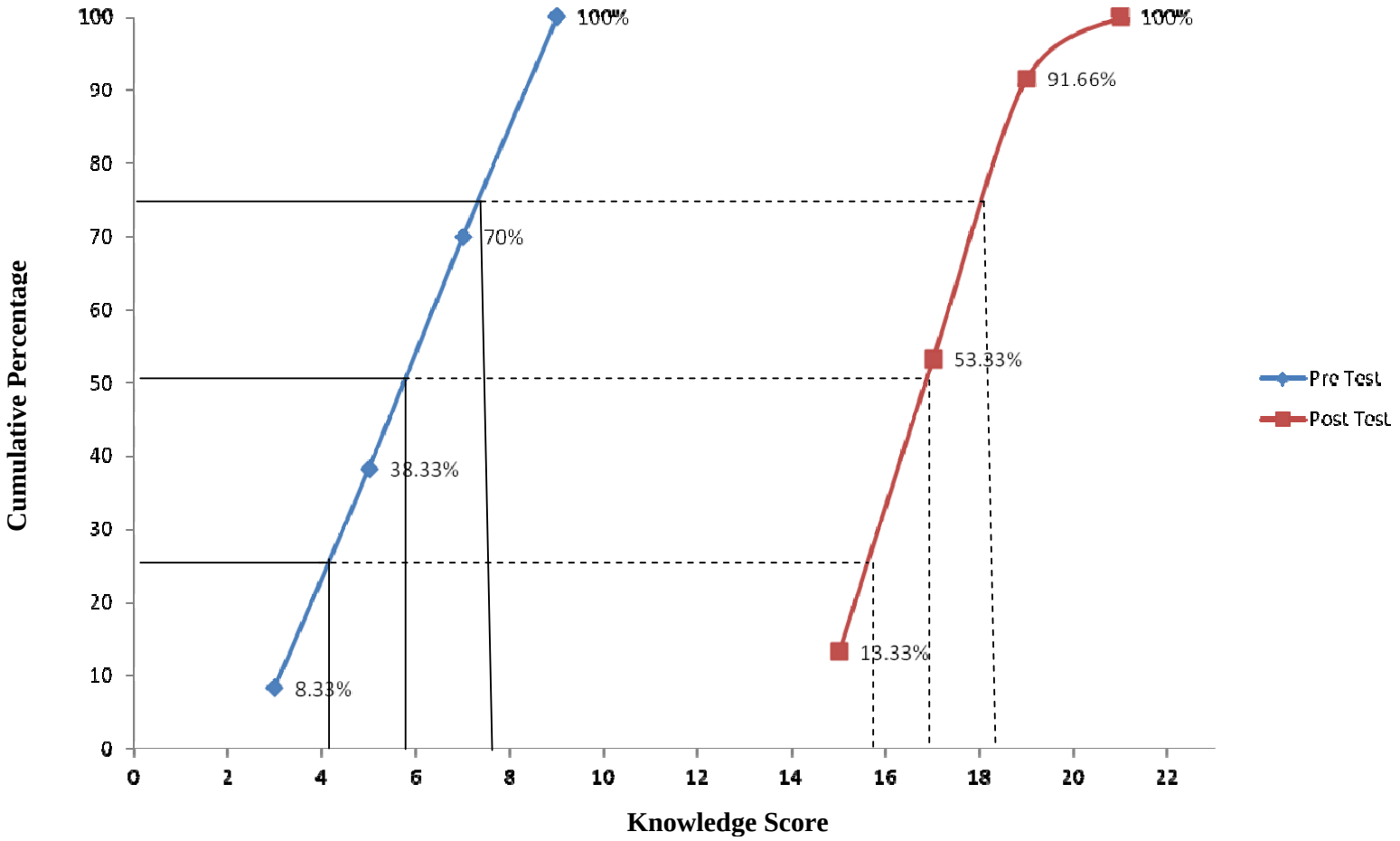

Fig. 4.8: O-Give curve showing comparison between pre and post test knowledge scores of school children regarding hazards of plastic use.

O-give curve showing the comparison of pre and posttest cumulative percentage of knowledge among school children about hazards of plastic use shows that O-give curve of posttest score lies to the right of the pretest scores over the entire range, showing that the posttest scores are higher than pretest scores.

In the pretest 25^{th} percentile score is 4.1 where as it is 15.3 for the posttest revealing a difference of 11.2. The 50^{th} percentile score for pretest is 5.7 which is 16.5 for the posttest revealing a difference of 10.8. The 75^{th} percentile score for the pretest is 7.3 which is 18.2 for the posttest revealing a difference of 10.9. It shows that the difference of all three quartiles is more or less similar revealing the effectiveness of peer mediated teaching on knowledge regarding hazards of plastic use among school children. (Figure 4.8)

Table 4.2:

b) Area wise comparison of Mean, Standard Deviation, Mean difference and Difference in mean percentage of pre and post test knowledge of school children regarding hazards of plastic use.

n=60

Sl. No	Areas Of Knowledge	Max. score	Pretest			Posttest			Difference in mean percentage
			Mean	S.D	Mean %	Mean	S.D	Mean %	
1	General Hazards	6	3.13	1.09	52.17	5.17	0.62	86.17	34
2	Hazards on Human Beings	4	2.13	0.93	53.25	3.45	0.62	86.25	33
3	Hazards on Coastal Areas	3	0.75	0.6	25	2.47	0.50	82.23	57.23
4	Hazards on Environment	4	1.1	0.82	27.5	3.32	0.65	83	55.5
5	Hazards on Animals	2	0.43	0.53	21.5	1.6	0.56	80	58.5
6	Preventive Aspects	3	0.4	0.72	24	2.35	0.73	78.33	54.33
	Overall	**22**	**7.11**	**0.99**	**32.31**	**18.35**	**0.04**	**83.40**	**51.09**

The above table shows that during pretest the highest mean score (2.13±0.93) which is 53.25% of the maximum score was obtained in the area of “Hazards on human beings” where the post test mean score was also highest (3.45±0.62) revealing a lowest difference in mean percentage(33%).However highest difference in mean percentage (58.5%) was obtained in the area of “Hazards on animals” might be due to lowest pre test mean score (0.43±0.53) which is 21.5% of maximum score. More or less similar difference in mean percentage was found in the areas of “Hazards on

coastal areas" (57.23%), "Hazards on environment" (55.5%) and "Preventive aspects" (54.33%) where the pre and post test mean scores were also more or less similar.

Further the overall pre test mean score was 7.11±0.99 which is 31.3% and the post test mean score was 18.35±0.04 which is 83.4% revealing a difference of 51.09%. (Table 4.2)

c) Comparison of Mean, Standard Deviation, Mean percentage and Difference in mean percentage of pre and post test score of school children regarding hazards of plastic use with their selected demographic variables

Table 4.3:

Mean, Standard Deviation, Mean percentage and Difference in mean percentage of pre and post test score of school children according to their age.

n=60

Age (in years)	No. of samples	Pre test			Post test-			Difference in mean%
		Mean	S.D	Mean %	Mean	S.D	Mean %	
10-11	39	7.59	1.82	34.5	18.28	1.53	83.09	48.59
11-12	21	6.62	1.96	30.09	18.42	1.6	83.72	53.63
Overall	**60**	**7.11**	**0.99**	**32.31**	**18.35**	**0.04**	**83.40**	**51.09**

The above table shows that, during pre test a higher mean score (7.59±1.82) which is 34.5% of the total score was obtained by children in 10-11 years age group when compared to children in 11-12 years age group who obtained a mean score of 6.62±1.96 which is 30.09%. However during post test, the mean scores of children in 10-11 years (18.28±1.53) and 11-12 years (18.42±1.6) were more or less similar with a difference in mean percentage of 48.59 and 53.63 respectively.

Table 4.4:

Mean, Standard Deviation, Mean percentage and Difference in mean percentage of pre and post test score of school children according to their gender.

n=60

Gender	No. of samples	Pre test			Post test-			Difference in mean%
		Mean	SD	Mean%	Mean	SD	Mean%	
Male	26	7	2.06	31.81	18.42	1.48	83.72	51.91
Female	34	7.44	1.81	33.81	18.26	1.59	83	49.19
Overall	**60**	**7.11**	**0.99**	**32.31**	**18.35**	**0.04**	**83.40**	**51.09**

The above table shows that, during pretest the more or less similar mean score of 7.44±1.81, which is 33.81% and 7.0± 2.06, which is 31.81% of the total score was obtained by female and male children respectively. During posttest also the mean scores of male children (18.42±1.48) which is 83.72% and female children 18.26 ± 1.59 which is 83% of the total score were more or less similar with the difference in mean percentage of 51.91% and 49.19% respectively.

Table 4.5:

Mean, Standard Deviation, Mean percentage and Difference in mean percentage of pre and post test score of school children according to their educational status.

n=60

Educational status	No. of samples	Pre test			Post test-			Difference in Mean %
		Mean	SD	Mean %	Mean	SD	Mean %	
5thstd	29	7.31	1.76	33.22	18.03	1.63	81.95	48.73
6thstd	31	7.19	2.08	32.68	17.93	5.17	81.5	48.82
Overall	**60**	**7.11**	**0.99**	**32.31**	**18.35**	**0.04**	**83.40**	**51.09**

The above table shows that, during pretest more or less similar mean score of 7.31±1.76 which is 33.22% 7.19±2.08 which is 32.68% of the total score was obtained by children studying 5th and 6th standard respectively.

During posttest also the mean score of children studying in 5th standard 18.03±1.63, which was 81.95% of the total score and children in 6th standard which is 17.93±5.17 were more or similar with difference in mean percentage of 48.73% and 48.82% respectively. This reveals that the peer mediated teaching was more or less similarly effective for both the groups

Table 4.6:

Mean, Standard Deviation, Mean percentage and Difference in mean percentage of pre and post test score of school children according to their previous knowledge on hazards of plastic use.

n=60

Previous knowledge	No. of samples	Pre test			Post test-			Difference in mean%
		Mean	SD	Mean %	Mean	SD	Mean %	
Yes	55	7.21	1.82	32.77	18.25	1.58	82.95	50.18
No	5	7.6	0.49	34.54	19.2	0.75	87.27	52.73
Overall	**60**	**7.11**	**0.99**	**32.31**	**18.35**	**0.04**	**83.40**	**51.09**

The above table shows that, during pretest more or less similar mean score of 7.21±1.82 which is 32.77% and 7.6±0.49 which is 34.54% of the total score was obtained by children on previous knowledge on hazards of plastic use.

However, in posttest the mean score 19.2±0.75, which was 87.27% of the total score was obtained by children who did not have previous knowledge when compared to children who had previous knowledge with the mean score of 18.25±1.58 which was 82.95% of the total score showing a difference in mean percentage of 52.73%.

Table 4.7:

Mean, Standard Deviation, Mean percentage and Difference in mean percentage of pre and post test score of school children according to their source of knowledge on hazards of plastic use.

n=55

Source of knowledge	No. of samples	Pretest			Posttest			Difference Mean %
		Mean	SD	Mean %	Mean	SD	Mean %	
Newspaper	3	7.33	1.27	33.31	18.33	1.73	83.31	50
Television	5	6.2	2.48	28.18	18	1.09	81.81	53.63
School education	42	7.45	2.01	33.86	18.35	1.63	83.40	49.54
Friends/relatives	4	6.5	0.87	29.55	18	1.22	81.81	52.26
Health worker	1	5	0	22.73	16	0	72.72	49.99
Overall	**55**	**7.11**	**0.99**	**32.31**	**18.35**	**0.04**	**83.40**	**51.09**

The above table shows that, during pretest a more or less similar mean score of 7.45±2.01 which is 33.86% and 7.33±1.27 which is 3.33% of the total score was obtained by children who gained information through newspapers and school education.During post test also the mean scores of children who gained information from newspapers 18.33±1.73 which is 83.31% and through school education 18.35±1.63 which is 83.40% of the total score were more or less similar with a difference in mean percentage of 50% and 49.54% respectively. A more or less similar difference in mean percentage 53.63% and 52.26% was obtained by children who gained information through friends and relatives. The highest difference in mean percentage 53.63% was obtained by children who gained information through television.

Section-D

Hypotheses testing

H_1: There will be significant difference between pretest and posttest knowledge scores of school children regarding hazards of plastic use at $p < 0.05$ level.

Table-4.8:

Effectiveness of peer mediated teaching on level of knowledge of school children regarding hazards of plastic use.

n=60

Sl. No	Area of knowledge	Pretest		Posttest		t value
		Mean	SD	Mean	SD	
1	General Hazards	3.133	1.096	5.166	0.615	13.33**
2	Hazards on Human Beings	2.125	0.925	3.45	0.622	15.38**
3	Hazards on Coastal Areas	0.75	0.600	2.466	0.503	11.2**
4	Hazards on Environment	1.1	0.817	3.316	0.650	13**
5	Hazards on Animals	0.433	0.532	1.6	0.558	13.22**
6	Preventive Aspects	0.4	0.717	2.35	0.732	18**
7	Overall	6.50	0.97	17.74	0.69	33.58**

**** Highly Significant at p<0.001 level, df=59, table value=3.46**

The above table shows that, highly significant difference found between pre and post test scores of level of knowledge in all the areas and in the overall level of knowledge.

Hence it can be interpreted that the difference in mean score values related to the above mentioned areas were true differences and the hypotheses H_1 is retained.

H_2: There will be significant association between the level of knowledge of school children regarding hazards of plastic use and their selected demographic variables at $p < 0.05$ level.

Table-4.9:

Association between level of knowledge of school children regarding hazards of plastic use and their selected demographic variables.

n = 60

S.No	Demographic variables	df	Table value	Pretest χ^2	Posttest χ^2
1	Age in years	2	5.99	3.56	2.16
2	Sex	2	5.99	2.32	1.82
3	Educational	2	5.99	0.59	0.92
4	Previous knowledge on hazards of plastic use	2	5.99	0.22	0.62
5	Source of previous Knowledge	8	15.51	6.31	8.91

* Significant at $p<0.05$ level

The above table shows that, there is no significant association between the pretest and posttest level of knowledge of school children and their selected demographic variables. Hence it can be interpreted that the difference in mean score of the pretest and posttest related to the demographic variables were not true difference and only by chance and the research hypothesis H_2 is rejected. ($p>0.05$ level)

Summary

This chapter dealt with data analysis and interpretation based on the objectives. Frequency and percentage distribution of school children according to their selected demographic variables. The paired ‘t’ test was used to evaluate the effectiveness of peer mediated teaching in increasing knowledge regarding hazards of plastic use. The chi-square test was used to find out the association between the level of knowledge of school children regarding hazards of plastic use with their selected demographic variables.

CHAPTER V

DISCUSSION

The aim of this study was to Assess the Effectiveness of a Peer Mediated Teaching on Knowledge regarding Hazards of Plastic use among School Children in Selected School, Salem.

Description of demographic variables

- Majority of the school children 39(65%) were in the age group of 10-11 years and 21 children (35%) were in the age group of 11-12 years
- Majority of the children 34(56.7%) were females.
- More or less similar percentage of children 31(51.66%) were in the sixth standard and 29 (48.33%) were in the fifth standard.
- The school enrolment rate between the ages 7-13 is 98.6%
- Most of them 55(92%) had previous knowledge on hazards of plastic use
- Among the children who has previous knowledge on hazards of plastic use (n=55), majority 42(70%) of them gained by school education.
- The literacy rate in 2011 in Tamilnadu is 80.33%

To assess the existing knowledge on hazards of plastic use among school children.

The pre test level of knowledge regarding hazards of plastic use, shows that similar percentage of children 30(50%) had inadequate and moderately adequate knowledge and none of them had adequate knowledge.

The present study was supported by **Sanghi, (2008**) in an analysis which was conducted among seven hundred people of Delhi about the harmful effects of plastic. Primary data was collected through questionnaire. The overall response pattern

showed that children had only a moderate level of awareness about hazards of plastic use.

To determine the effectiveness of peer mediated study on the knowledge regarding hazards of plastic use among school children

During post-test all of the children 60(100%) had adequate knowledge. Highly significant difference found between pre and post test scores of level of knowledge in all the areas and in the overall level of knowledge (t=33.58*). This reveals that peer mediated teaching was effective in increasing the knowledge regarding hazards of plastic use at P<0.001 level.

The present study was supported by **Bhardwaj A.K., et.al, (2002)** who conducted a study on peer mediated teaching a gainful experience in school children of Shimla. The samples were 189 students of 8^{th}, 9^{th} and 10^{th} class, exposed to 10 selected topics of various vital facts. Pre test knowledge was very poor, only 7.7%. After peer mediated teaching the knowledge possession went to 68.9% and there was a clear increase of 61.2% knowledge among children. The peer mediated teaching at school was a gainful experience for the students.

To associate the knowledge regarding hazards of plastic use among school children with their selected demographic variables

In this study, there was no significant association between the pretest and posttest level of knowledge of school children and their selected demographic variables. Hence it can be interpreted that the difference in mean score of the pretest and posttest related to the demographic variables were not true difference and only by chance and the research hypothesis H_2 was rejected. (P<0.05 level)

The present study was supported by **Lithner, (2011)** at the University of Gothenberg, Sweden studied the knowledge of school children regarding harmful effects of plastics among high school students and found that there was no association on the level of knowledge and the selected demographic variables.

Summary

This chapter dealt with discussion of the study with the difference of objectives and supportive study.

CHAPTER VI

SUMMARY, CONCLUSION, IMPLICATIONS AND RECOMMENDATIONS

This chapter consists of summary, conclusion, implications in nursing service, nursing education, nursing administration and nursing research and recommendations for further study.

Summary

A pre-experimental (one group pre test - post test) study was conducted at government elementary school, Palampatti, Salem to assess the effectiveness of peer mediated teaching on knowledge of school children regarding hazards of plastic use. J.W.Kenny's Open System Model was used as the conceptual framework for the study. 66 children were selected by non probability convenience sampling technique and the top 6 peer educator were trained to teach their 60 peers. A closed ended questionnaire was used to assess the pre test and post test score on effectiveness of peer mediated teaching in increasing the level of knowledge of school children regarding the hazards of plastic use. The data were analyzed using descriptive and inferential statistics.

The Major Findings are summarized as follows,

- 39(65%) were in the age group of 10-11 years.
- Majority of the children 34(56.7%) were females.
- 31(51.66%) were in the sixth standard.
- Most of them 55(92%) had previous knowledge on hazards of plastic use .
- Majority 42(70%) of them gained knowledge on hazards of plastic use by school education.

- Distribution of children according to the pre test level of knowledge regarding hazards of plastic use, shows that similar percentage of children 30(50%) had inadequate knowledge and moderately adequate knowledge and none of them had adequate knowledge.
- Distribution of school children according to their level of knowledge peer mediated teaching depicts that, during post-test all of the children 60(100%) had adequate knowledge.
- Highly significant ($P<0.001$ level) difference found between pre and post test scores of level of knowledge in all the areas and in the overall level of knowledge.
- There is no significant association between the level of knowledge of school children and their selected demographic variables.

Conclusion

The study was conducted to assess the effectiveness of peer mediated teaching on level of knowledge of school children regarding hazards of plastic use in a selected school, Salem. The findings of the study showed that the peer mediated teaching was very effective in improving the level of knowledge. There was no significant association found between the level of knowledge of school children regarding hazards of plastic use with their selected demographic variables. This study will help the health care professional to develop appropriate teaching materials. The peer mediated teaching is an proven method to improve the knowledge of the children and so the health care professionals can use peer mediated teaching in educating the children to facilitate the healthy growth and development and healthy practices in day today activities.

Implications

The health of children reflects the prosperity of the nation. A large number of diseases could be prevented with little or no medical interventions if people are adequately informed about the likely complications and encouraged to take necessary precautions in time. The present study helps to prevent hazards of plastic use through peer mediated teaching.

Nursing practice

- All the students and teachers can be taught about hazards of plastic use in order to enrich the knowledge.
- Use peer mediated teaching on other health habits such as personal hygiene, oral hygiene, cleanliness of surroundings.
- School health nurses can teach the school children with the help of peer mediated teaching on different aspects.
- Training programme can be arranged for school teachers in order to emphasize the healthy life style to the students.

Nursing education

- The students can be involved in health education process through peer mediated teaching.
- Staff development programme can be arranged on peer mediated teaching related to hazards of plastic use.
- Nursing students can make use of available literature and studies on methods of conducting peer mediated teaching.
- Nurses can use various methods like role play, quiz, puppets show to teach the school children about hazards of plastic use.

Nursing administration

- The nurse administrator coordinates her work along with the school teachers, to encourage them to teach the children in the schools.
- Nursing administrator should organize educational programme regarding hazards of plastic use especially environmental sanitation.
- Nurse administrator can participate in formulating polices for implementation of peer mediated teaching.
- Provide opportunities for school health nurse to attend training programme.

Nursing research

- Educational institution and service organization can motivate researchers for implementing peer mediated teaching on various topics related to health of school children.
- The findings can be used as evidence based practice by school health nurse to increase awareness among school children.
- Disseminate the research findings on effect of peer mediated teaching through conferences, seminar and by publishing the article in nursing journals and national and international journals.

Recommendations

- A similar study can be conducted for a large sample to generalize the findings.
- A similar study can be done on various topics such as environmental sanitation, accident prevention and personal hygiene through peer mediated teaching.
- A comparative study can be conducted between urban and rural school children.
- A similar study can be conducted for various age groups of children.

- A similar study can be done by using various teaching methods.
- A study can be conducted as child to family programme and child to community programme.

Summary

This chapter dealt with summary, conclusion, implications for nursing practice and recommendations.

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ANNEXURE - A

LETTER SEEKING PERMISSION TO CONDUCT A RESEARCH STUDY

From

Mr. Abin Peter,

Final Year, M.Sc., (N)

Sri Gokulam College of Nursing,

Salem, Tamil Nadu.

To

The Principal,

Sri Gokulam College of Nursing,

Salem, Tamil Nadu.

Respected Sir/Madam,

Sub: Permission to conduct research project - request- reg.

I**, Abin Peter,** Final Year M.Sc., (Nursing) student of Sri Gokulam College of Nursing, is conducting research project in partial fulfillment of Tamil Nadu Dr.M.G.R. Medical University, Chennai, as a part of the requirement for the award of M.Sc., (Nursing) Degree.

Topic: "A Study To Assess The Effectiveness Of A Peer Mediated Teaching On Knowledge Regarding Hazards Of Plastic Use Among School Children In A Selected School , Salem".

I request you to kindly do the needful.

Thanking you.

Date : 11.07.11

Place : Salem

Yours sincerely,

(ABIN PETER)

ANNEXURE - B

LETTER GRANTING PERMISSION TO CONDUCT A RESEARCH STUDY

SRI GOKULAM COLLEGE OF NURSING
3/836, Periyakalam, Neikkarapatti, Salem - 636 010.
Phone : 0427 - 6544550,2272240,2272250 Fax : 0427 - 2270200, 2447077
Email : sgcon2001@yahoo.com, sgcon2001@gmail.com

13.7.11.

Date : .....

To

The Assistant Elementary Education Officer,
Veerapandi,
Ariyanoor,
Salem.

Respected Sir/Madam,

Sub: Permission to conduct Research Project-Reg.

This is to introduce **Mr. Abin Peter,** a final year M.Sc (Nursing) student of our college. He is to conduct a research project which is to be submitted to the Tamil Nadu Dr. M.G.R. Medical University, Chennai in partial fulfilment of University requirement for the award of M.Sc (Nursing) Degree.

Topic: A Study To Assess The Effectiveness Of A Peer Mediated Teaching On Knowledge regarding Hazards of Plastic use Among School children in selected school, Salem.

I request you to kindly permit him to conduct the research study in Panchayat Union Middle School, Palampatti from 14.7.11 to 7.8.11. He will adhere to the institutional policies and regulations.

Thanking you,

Yours sincerely,

Date : 13.07.11

Place :Salem

(Dr A. Jayasudha)
PRINCIPAL
Sri Gokulam College of Nursing
SALEM – 636 010.

Permitted
13.7.11

ANNEXURE - C

LETTER REQUESTING OPINION AND SUGGESTIONS OF EXPERTS FOR CONTENT VALIDITY OF THE RESEARCH TOOLS

From

Mr. Abin Peter
Final Year M.Sc., (N)
Sri Gokulam College of Nursing,
Salem, Tamil Nadu.

To,

Respected Sir/ Madam,

Sub: Requesting opinion and suggestions of experts for establishing content validity of the tools.

I, **Mr. Abin Peter,** a Final Year M.Sc., (Nursing) student of Sri Gokulam College of Nursing, Salem. I have selected the topic mentioned below for the research project to be submitted to The Tamil Nadu Dr. M.G.R. Medical University, Chennai for the partial fulfilment of Master's Degree in Nursing.

Topic: "A Study To Assess The Effectiveness Of A Peer Mediated Teaching On Knowledge Regarding Hazards Of Plastic Use Among School Children In A Selected School , Salem".

I wish to request you kindly validate the tool and give your expert opinion for necessary modification. I will be grateful to you for this.

Thanking you

Yours sincerely,

Place : Salem

Date : **(Mr. Abin Peter)**

Enclosed:

1. Certificate of validation
2. Criteria checklist of evaluation of tool
3. Tool for collection of data
4. Intervention

ANNEXURE - D

CLOSED ENDED QUESTIONNAIRE TO ASSESS THE KNOWLEDGE ON HAZARDS OF PLASTIC USE:

INSTRUCTIONS TO THE PARTICIPANTS

The closed ended questionnaire contains questions regarding the hazards of plastic use. It has 2 sections.

SECTION A:

Requires information related to your personal data.

SECTION B:

Includes questions regarding hazards of plastic use, each question has four options in which one will be the correct answer. Kindly put a tick (✓) mark against which ever you feel is correct. All information which is provided by you, will be kept confidential.

SECTION A

DEMOGRAPHIC VARIABLES:

1. Age in years
   - 1.1. 10-11 ( )
   - 1.2. 11-12 ( )
2. Gender
   - 2.1 Male ( )
   - 2.2 Female ( )
3. Educational status
   - 3.1 Fifth standard ( )
   - 3.2 Sixth standard ( )

4. Previous knowledge on hazards of plastic use

4.1 Yes ( )

4.2 No ( )

4.1 If yes, source of previous knowledge

4.1.1 News paper ( )

4.1.2 Television ( )

4.1.3 School education ( )

4.1.4 Friends/ relatives ( )

4.1.5 Health professionals ( )

SECTION B

CLOSED ENDED QUESTIONNAIRE ON KNOWLEDGE REGARDING HAZARDS OF PLASTIC USE

I GENERAL ASPECTS ON HAZARDS OF PLASTIC USE:

1. Food should not be stored in

    1.1. Plastic containers ( )

    1.2. Steel boxes ( )

    1.3. Glass materials ( )

    1.4. Mud pots ( )

2. When hot foods are packed in plastic boxes

    2.1. Nothing happens ( )

    2.2 . Food loses its colour ( )

    2.3. Food loses its taste ( )

    2.4. It melts and mixes with food ( )

3. Plastic when burnt causes

    3.1. Pleasant smell ( )

    3.2 Dark smoke ( )

    3.3 Toxic smoke ( )

    3.4. Ashes ( )

4. Thin bags made from plastic are more

    4.1. Harmful ( )

    4.2. Useful ( )

    4.3. Safe ( )

    4.4. Clean ( )

5. Plastic indirectly cause germs

5.1. Breeding ( )

5.2. Death ( )

5.3. Dormancy ( )

5.4. Sterility ( )

6. Plastics affects the

6.1. Machines, plans and vehicles ( )

6.2. Human beings, environment and animals ( )

6.3. Buildings, mobiles and televisions ( )

6.4. Clothes, glass and electricity ( )

II. COMMON HAZARDS OF PLASTIC USE:

A. HAZARDS OF PLASTIC USE ON HUMAN BEINGS

7. The hazards caused by plastics in human beings is

7.1. Fever and diarrhoea ( )

7.2. Cough and cold ( )

7.3. Vomiting and constipation ( )

7.4. Heart diseases and liver problem ( )

8. When human beings consume sea animals and fishes which have consumed plastic, it causes

8.1. Physical health problems ( )

8.2. Mental health problems ( )

8.3. Insomnia ( )

8.4. Mild fever ( )

9. Children should not be given

9.1. Plastic toys to play ( )

9.2. Dolls made of clothes ( )

9.3. Toys made of rubber ( )

9.4. Wooden toys to play ( )

10. Inhalation of the smoke aroused during burning of plastic causes

10.1. Cancer ( )

10.2.Vomiting ( )

10.3. Brain damage ( )

10.4. Diarrhoea ( )

B. HAZARDS OF PLASTIC USE ON COASTAL REGION

11. Sea creatures are affected by

11.1. Plastics ( )

11.2. Dirt ( )

11.3. Microorganisms ( )

11.4 salt in water ( )

12. Marine animals misunderstand plastic as

12.1. Fish food ( )

12.2. Plants ( )

12.3. Jelly fish ( )

12.4. Small fish ( )

13. When plastic bags are swallowed by sea creatures they

13.1. Can’t able to swim ( )

13.2. Become sick ( )

13.3. Don’t grow ( )

13.4. Die ( )

C. HAZARDS OF PLASTIC USE ON ENVIRONMENT

14. Plastic blocks the

    14.1.Roads ( )

    14.2.Drains ( )

    14.3. Traffic ( )

    14.4. Water taps ( )

15. Plastic cause harmful effects on

    15.1.Sun, moon and air ( )

    15.2. Land, air and water ( )

    15.3. Roads, vehicles and buildings ( )

    15.4. Schools, hospitals and shops ( )

16. Plastics which is deposited in the land also affect the

    16.1. Ground water ( )

    16.2. Rocks ( )

    16.3. Iron ( )

    16.4. Copper ( )

17. The time taken to the plastic to decompose is

    17.1. 500 years ( )

    17.2. 600 years ( )

    17.3. 400 years ( )

    17.4. 200 years ( )

D. HAZARDS OF PLASTIC USE ON ANIMALS

18. Animals consume plastic mainly by eating

    18.1. Leftover food discarded in plastic bags ( )

    18.2. Plastic cups which are discarded ( )

    18.3. Plastic plates which are discarded ( )

    18.4. Plastic products such as carry bags ( )

19. Domestic animals are found dead after

    19.1. Eating from plastic tubs ( )

    19.2. Swallowing bits of plastic ( )

    19.3. After drinking bad water ( )

    19.4. Burning plastic ( )

E. PREVENTION OF HAZARDS OF PLASTIC USE

20. Plastic bags can be replaced by

    20.1.Rexin bags ( )

    20.2.Nylon bags ( )

    20.3.Polythene bags ( )

    20.4.Paper bags ( )

21. Disposable paper plates and paper cups are

    21.1.Harmful ( )

    21.2.Costly ( )

    21.3.Safe ( )

    21.4.Not useful ( )

22. The alternative for plastic in storing food is

22.1.Rubber ( )

22.2.Nylon ( )

22.3.P.V.C ( )

22.4.Steel ( )

Interpretations

Each correct response carries 1 mark.

Each wrong response carries 0 mark.

Level of knowledge	Score	Percentage
Inadequate	0 – 7	< 32%
Moderately adequate	8 – 14	33 – 64%
Adequate	15 – 22	>65%

SCORING KEY FOR THE CLOSED ENDED QUESTIONNAIRE

Question No	Answer Key
I. General Aspects on hazards of plastic use	
1)	1.1
2)	2.4
3)	3.3
4)	4.1
5)	5.1
6)	6.2
II. Common hazards of plastic use: a) Hazards of plastic use on human beings	
7)	7.4
8)	8.1
9)	9.1
10)	10.1
b) Hazards of plastic use on coastal region	
11)	11.1
12)	12.3
13)	13.4
c) Hazards of Plastic use on environment	
14)	14.2
15)	15.2
16)	16.1
17)	17.1
d) Hazards of plastic use on animals	
18)	18.1
19)	19.2
e) Prevention of hazards of plastic use	
20)	20.4
21)	21.3
22)	22.4

INTERVENTION

PEER MEDIATED TEACHING

Peer education is an ongoing process and most peer educators make contact with their target audience usually be in the context of informal discussion with individual people or groups. This gives the peer an opportunity to ask questions outside an academic environment and with someone who is at an authority figures.

Articles Needed:

- Flash cards on hazards of plastic use

Procedure:

The investigator selects 66 samples by systematic sampling technique and will conduct a pre test using the closed ended questionnaire. The top 6 students of the test will be selected as the peer educators and the investigator teaches the 6 peer educators using flashcards and from the next day, the 6 peer educators will teach their peer groups using the same flash card. The posttest will be conducted for each group on their 7^{th} day after the peer mediated teaching to assess the knowledge of school children on hazards of plastic use.

பிளாஸ்டிக் பொருளினை பயன்படுத்துவதால் ஏற்படும் தீங்கினை பற்றிய அறிவினை அறிய பயன்படுத்தும் படிவம்

பங்குபெறும் மாணவர்களுக்கான குறிப்புகள்

பிளாஸ்டிக் பொருளினால் ஏற்படும் தீங்குகள் பற்றிய வினா-நிரல் இரண்டு பிரிவுகளை கொண்டுள்ளது.

பிரிவு - அ

இதில் வினா-நிரல் பயன்படுத்துபவர்களின் தன் விவரக்குறிப்பு அடங்கும். அதில் சரியான விடையைத் தேர்ந்தெடுத்து அதற்கு நேராக உள்ள அடைப்புக் குறியில் (✓) குறியீடு செய்யவும்.

பிரிவு -ஆ

பிளாஸ்டிக் பொருளினால் ஏற்படும் தீங்குகள் பற்றிய வினா நிரலில் வினாக்கள் கொடுக்கப்பட்டுள்ளது. ஒவ்வொரு வினாவிற்கும் நான்கு விடைகள் கொடுக்கப்பட்டிருக்கும். அதில் சரியான விடையைத் தேர்ந்தெடுத்து அதற்கு நேராக உள்ள அடைப்புக் குறியில் (✓) குறியீடு செய்யவும். தங்களது தரவுகள் ரகசியமாக வைக்கப்படும்.

பிரிவு - அ

புள்ளி விவர ஆய்வு மாற்றுரு

1. வயது

    1.1. 10 - 11 வயது ( )

    1.2. 11 - 12 வயது ( )

2. பாலினம்

    2.1. ஆண் ( )

    2.2. பெண் ( )

3. கல்வித்தகுதி

3.1. ஐந்தாம் வகுப்பு ( )

3.2. ஆறாம் வகுப்பு ( )

4. பிளாஸ்டிக் பொருளினை பயன்படுத்துவதால் ஏற்படும் தீமை பற்றிய முந்தைய அறிவு

4.1. ஆம் ( )

4.2. இல்லை ( )

5. ஆம் எனில், அறிந்து கொண்ட விதம்

5.1. செய்தித்தாள் / நாளிதழ் ( )

5.2. தொலைக்காட்சி ( )

5.3. பள்ளிக்கல்வி ( )

5.4. நண்பர்கள் / உறவினர்கள் ( )

5.5. சுகாதாரப் பணியாளர்கள் ( )

பிரிவு - ஆ: மறைவடக்க இறுதி வினா-நிரல்

I.பிளாஸ்டிக் பொருளினால் ஏற்படும் தீங்குகள் பற்றி பொதுவானக் கருத்து

1. உணவுப்பொருள் இதில் சேமிக்கக்கூடாது

1.1. பிளாஸ்டிக் பொருளினால் ஆன கொள்கலன் ( )

1.2. உலோகப் பாத்திரங்கள் ( )

1.3. கண்ணாடிப் பாத்திரங்கள் ( )

1.4. மண் பாத்திரங்கள் ( )

2. பிளாஸ்டிக் பொருளினால் ஆன பாத்திரத்தில் சூடான உணவுப்பண்டங்களை கட்டும் போது

2.1. ஒன்றும் நிகழாது ( )

2.2. உணவுப்பொருள் தனது நிறத்தை இழந்து விடும் ( )

2.3. உணவுப்பொருள தனது சுவையை இழந்து விடும் ( )

2.4. பிளாஸ்டிக் பொருள் இளகி உணவுடன் கலந்துவிடும் ( )

3. பிளாஸ்டிக் பொருளினை எரிக்கப்படும் பொழுது உண்டாவது

3.1. நறுமணம் ( )

3.2. கரும்புகை ( )

3.3. நச்சுப்புகை ( )

3.4. சாம்பல் ( )

4. பிளாஸ்டிக் பொருளினால் ஆன மெல்லிய பைகளால் எற்படும் விளைவு

4.1. தீமையானது ( )

4.2. நன்மையானது ( )

4.3. பாதுகாப்பானது ( )

4.4. தூய்மையானது ( )

5. பிளாஸ்டிக் பொருளினால் மறைமுகமாக உருவாகும் கிருமிகளினால் ஏற்படும் விளைவு

5.1. இனப்பெருக்கம்/ வளர்ச்சி ( )

5.2. இறப்பு ( )

5.3. செயலிழப்பு ( )

5.4. மலட்டுத்தன்மை ( )

6. பிளாஸ்டிக் பொருள் எதை பாதிக்கிறது.

6.1. கருவிகள், தாவரங்கள் மற்றும் வாகனங்கள் ( )

6.2. மனிதர்கள், சுற்றுச்சூழல் மற்றும் மிருகங்கள் ( )

6.3. கட்டிடங்கள், கைபேசிகள் மற்றும் தொலைக்காட்சிகள் ( )

6.4. ஆடைகள், கண்ணாடி மற்றும் மின்சாரம் ( )

II. பிளாஸ்டிக் பொருளினால் மனிதர்களிடையே ஏற்படும் தீங்குகள்

7. பிளாஸ்டிக் பொருளை மனிதன் பயன்படுத்துவதால் ஏற்படும் தீங்குகள்

7.1. காய்ச்சல் மற்றும் வயிற்றுப்போக்கு ( )

7.2. சளி மற்றும் இருமல் ( )

7.3. வாந்தி மற்றும் மலச்சிக்கல் ( )

7.4. இதயநோய்கள் மற்றும் கல்லீரல் பிரச்சனைகள் ( )

8. பிளாஸ்டிக் பொருளை உட்கொண்ட கடல்வாழ் உயிரினங்கள் மற்றும் மீன்களை மனிதர்கள் பயன்படுத்தும் போது ஏற்படும் விளைவு

8.1. உடல்நலக்குறைவு ( )

8.2. மனநலக்குறைவு ( )

8.3. இருமல் ( )

8.4. குறைவான காய்ச்சல் ( )

9. குழந்தைகளுக்கு இது கொடுக்கக்கூடாது

9.1. பிளாஸ்டிக் பொருளால் ஆன விளையாட்டு பொருள்கள் ( )

9.2. துணியால் ஆன பொம்மைகள் ( )

9.3. நீட்சி, மீட்சி வாய்ந்த பொருட்கள் ( )

9.4. மரத்தாலான விளையாட்டுப் பொருட்கள் ( )

10. பிளாஸ்டிக் பொருளினை எரிக்கும் போது உருவாகும் புகையினை சுவாசிப்பதால் ஏற்படும் விளைவு

10.1. புற்றுநோய் ( )

10.2. வாந்தி ( )

10.3. மூளை பாதிப்பு ( )

10.4. வயிற்றுநோக்கு ( )

III. கடற்கரையோரம் சார்ந்த பகுதிகளில் பிளாஸ்டிக் பொருட்களினை பயன்படுத்துவதால் ஏற்படும் தீமைகள்

11. கடல்வாழ் உயிரினங்கள் எவற்றால் பாதிக்கப்படுகிறது

11.1. பிளாஸ்டிக் ( )

11.2. கழிவுகள் ( )

11.3. நுண்ணியிரிகள் ( )

11.4. நீரில் உள்ள உப்பு ( )

12. பிளாஸ்டிக் பொருளினை கடல்வாழ் உயிரினங்கள் எவ்வாறு தவறுதலாக கருதுகிறது

12.1. மீன் உணவு ( )

12.2. தாவரங்கள் ( )

12.3. ஜெல்லி மீன் ( )

12.4. சிறு மீன்கள் ( )

13. கடல்வாழ் உயிரினங்கள் பிளாஸ்டிக் பொருளை விழுங்கும் போது ஏற்படும் விளைவு

13.1. நீந்த இயலவில்லை ( )

13.2. உடல்நலம் பாதிக்கப்படுதல் ( )

13.3. வளர்ச்சியின்மை ( )

13.4. இறப்பு ( )

IV. பிளாஸ்டிக் பொருளை பயன்படுத்துவதால் சுற்றுச்சூழலில் ஏற்படும் தீங்குகள்

14. குழைத்து உருவாக்கப்பட்ட வார்ப்பு பொருள் எதை தடைபடுத்துகிறது

14.1. சாலைகள் ( )

14.2. சாக்கடைகள் / கால்வாய்கள் ( )

14.3. போக்குவரத்து ( )

14.4. தண்ணீர்குழாய்கள் ( )

15. பிளாஸ்டிக் பொருள் எதில் தீமையை விளைவிக்கிறது

15.1. சூரியன், சந்திரன் மற்றும் காற்று ( )

15.2. நிலம், காற்று மற்றும் தண்ணீர் ( )

15.3. சாலைகள், வாகனங்கள் மற்றும் கட்டிடங்கள் ( )

15.4. பள்ளிகள், மருந்துவமனைகள் மற்றும் கடைகள் ( )

16. பிளாஸ்டிக் பொருள் நிலத்தில் படிவதால் எதில் பாதிப்புகள் ஏற்படுகிறது

16.1. நிலத்தடி நீர் ( )

16.2. பாறைகள் ( )

16.3. இரும்பு ( )

16.4. தாமிரம் ( )

17. பிளாஸ்டிக் பொருள் மக்குவதற்கு எடுத்துக் கொள்ளும் காலஅளவு

17.1. 500 வருடங்கள் ( )

17.2. 600 வருடங்கள் ( )

17.3. 400 வருடங்கள் ( )

17.4. 200 வருடங்கள் ( )

V. பிளாஸ்டிக் பொருளை விலங்குகள் பயன்படுத்துவதால் ஏற்படும் தீமைகள்

18. பிளாஸ்டிக் பொருளை விலங்குகள் பின்வருவனவற்றுள் எதை உணவாக உட்கொள்ளும்போது பிளாஸ்டிக் உட்செல்லுகிறது.

18.1. பிளாஸ்டிக் பொருளில் வைக்கப்பட்ட மீதமான உணவு ( )

18.2. பிளாஸ்டிக் பொருளால் ஆன எறியப்பட்ட குவளை ( )

18.3. பிளாஸ்டிக் பொருளால் ஆன எறியப்பட்ட தட்டு ( )

18.4. பிளாஸ்டிக் பொருளால் ஆன பைகள் ( )

19. வீட்டு விலங்குகள் இதை உண்பதால் இறப்பு ஏற்படுகிறது

19.1. பிளாஸ்டிக் பொருளால் ஆன கொள்கலனில் உள்ள உணவு பொருளை உண்பதால் ( )

19.2. பிளாஸ்டிக் பொருளால் ஆன துண்டினை விழுங்குவதால் ( )

19.3. அசுத்த நீரை பருகுவதால் ( )

19.4. பிளாஸ்டிக் பொருளை எரிப்பதால் ( )

VII. பிளாஸ்டிக் பொருளை உபயோகிப்பதால் ஏற்படும் தீங்குகளைத் தடுத்தல்

20. பிளாஸ்டிக் பொருளுக்கு பதிலாக எப்பொருள் பயன்படுத்தப்படவேண்டும்

20.1. ரெக்சின் பைகள் ( )

20.2. நைலான் பைகள் ( )

20.3. பாலித்தீன் பைகள் ( )

20.4. காகிதப் பைகள் ( )

21. பயன்படுத்தி எறியப்படும் காகிதத் தட்டுகள் மற்றும் காகிதக் குவளைகளால் ஏற்படும் விளைவு

21.1. தீமை ( )

21.2. செலவு அதிகம் ( )

21.3. பாதுகாப்பானது ( )

21.4. பயனில்லாமை ( )

22. உணவுப்பொருளை சேமிக்க பிளாஸ்டிக் பொருளுக்குப் பதிலாக மாற்றுப் பொருளாக எதை பயன்படுத்தலாம்.

22.1. நீட்சி, மீட்சி வாய்ந்த பொருள் (ரப்பர்) ( )

22.2. நைலான் ( )

22.3. பாலிவினைல் குளோரைடால் ஆனது ( )

22.4. உலோகம் ( )

ANNEXURE - E

LESSON PLAN ON HAZARDS OF PLASTIC USE

Name of the student teacher	: Abin Peter
Topic	: Hazards Of Plastic Use
Place	: Government Elementary School, Palampatti
Time	: 30 minutes
Medium of instruction	: Tamil
Method of teaching	: Lecture Cum Discussion
A.V. aids used	: Flash cards

General objectives

At the end of the class, the students will be able to gain adequate knowledge regarding hazards of plastic use and they will practice the same in their daily practices.

Specific objectives

At the end of the class, the students will be able to,

- define plastic
- list down the uses of plastic
- enlist the common hazards of plastic use
- brief the hazards of plastic use on human beings
- describe the hazards of plastic use on coastal region
- discuss the hazards of plastic use on environment
- mention the hazards of plastic use on animals
- justify the prevention of hazards of plastic use

Specific objectives	Content	Teachers activity	Students activity	Evaluation
Create awareness on school children The group will be able to define plastic The group will be able to list down the uses of plastic	**HAZARDS OF PLASTIC USE** **INTRODUCTION:** Plastic bags shoppers as they are commonly called are available in all sizes, shapes and colours and because of their light weight flexibility and low cost. Children are the future adults and what they learn is likely to be applied during the rest of their lives. When taught about the essential things of the society such as the hazards of the plastic use they can become agents of the big change for a better future. **WHAT IS A PLASTIC?** As plastic material is any of a wide range of synthetic or semi synthetic organic solids used in the manufacture of industrial products. **USES OF PLASTIC:** i. Plastic as storage container: The comfortable and attractive plastic containers are widely used for storing food stuffs and they also add to the comfort by being used as microwave vessels. ii. Shopping:	Explain the definition of plastic. Discussion on the uses of plastic.	Understand the meaning of plastic. Gain knowledge on the uses of plastic use	Define plastic List down the uses of plastic

The group will be able to enlist the common hazards of plastic use The group will be able to brief the hazards of plastic use on human beings	Plastic wraps are easier and safer. They make shopping enjoyable and attractive. iii. Dent Resistant Body Panel: Plastics in portable phones and computers and refrigerators and dishwashers are long lasting and resist corrosion. iv. Store water and juices: Plastic bottles are used in kitchens to store water and juices in refrigerators. **COMMON HAZARDS OF PLASTIC:** ➢ Hazards of plastic use on human beings ➢ Hazards of plastic use on coastal region ➢ Hazards of plastic use on environment ➢ Hazards of plastic use on animals **HAZARDS OF PLASTIC USE ON HUMAN BEINGS:** Bisphenol A is a chemical component which is used in the manufacture of plastic products. This component interferes with the body's natural hormonal messaging system. It has been linked to various health problems like heart problems, diabetes mellitus, liver problems and also affects the children causing down syndrome and	Lecturing on the hazards of plastic use Explaining the hazards of plastic use on human beings	Taking notes Understanding about the hazards of plastic use	Enlist the common hazards of plastic use Brief the hazards of plastic use on human beings

	hormonal problems. In women plastics pose serious hazards like breast and uterine cancer, increased risk of miscarriage and decreased testosterone levels. When food is cooked in plastic vessels it melts and mixes with the food and can cause deleterious effects to human health.			
The group will be able to describe the hazards of plastic use on coastal region	Burning plastics may even result in infertility in human beings. **HAZARDS OF PLASTIC USE ON COASTAL REGION:** Many marine infected organisms were found with plastic fragments in the stomachs and plastic molecules in their muscles. Turtles, dolphins and many other marine creatures often mistake small plastic bags for jelly fish after swallowing them they develop intestinal blockade which often lead to their death. The sea creatures such as fishes and whales consume plastics along with their food which affevts their health. The wastes from the different domestic and industrial areas are thrown into the seas and the plastic bags and products in the wastes float back to the shore causing unhygienic and untidy appearance to the coastal area.	Discussion on the hazards of plastic use on coastal region	Taking notes	Describe the hazards of plastic use on coastal region
The group will be able to discuss the	**HAZARDS OF PLASTIC USE ON ENVIRONMENT:** Plastic waste blocks drains and gutters, stopping the flow of rain	Explaining	Listening	Discuss the hazards on environment

hazards on environment The group will be able to mention the hazards on animals The group will be able to justify the prevention of hazards of plastic use	water and sewage causing an over flow which becomes the breeding ground for germs and bacteria causing many diseases. Plastic bags that fly and land in agricultural land retard the growth of the crops by wrapping itself around the plants. Plastic bags take 500 years to decompose ,and so the fertility of the soil and the ground water are affected. **HAZARDS OF PLASTIC USE ON ANIMALS:** Domestic animals like cows and goats often found dead after swallowing bits of plastic that gets mingled with the grass they eat. Left over foods are often thrown away in plastic bags and the cats and dogs which consume this also die. Birds get entangled in the plastic bags which fly in the air and it affects their flight and causes them to die. **PREVENTION OF HAZARDS OF PLASTIC USE:** ❖ Find alternatives to plastic products where ever possible. ❖ Avoid the use of thin plastic carry bags. ❖ Avoid the use of disposable plastic cups and plates. ❖ Switch over to cloth, jute paper and glass products. ❖ Buy food in metal or plastic containers. ❖ Avoid polycarbonate drinking bottles.	Discussion on the hazards of plastic use on animals Discussion	Contributing their views Taking notes	Mention the hazards on animals Justify the prevention of hazards of plastic use

	❖ Avoid heating food in plastic containers. ❖ Do not give children plastic tethers or toys. **SUMMARY:** So far we have seen about the definition of plastic, the uses of plastic ,the major hazards that plastic pose and their preventive aspects. **CONCLUSION:** Plastics have become universal and life without them seems impossible to man and little does one realize that plastics are hazardous. Children are the future adults and they make a greater impact on the society. Teaching them the hazards of plastic use will help us take a giant leap in forming a greaner world to live in. **REFERENCE:** **Books** • Basavanthappa, B.T. (1998). *Community health nursing* (1st editiion.). NewDelhi: Jaypee Brothers. • Hiremath. (2006). *Essentials of community medicine- A practical approach*. (1st ed.). New Delhi: Jaypee Brothers. **Journals** • Campbell (2004). Plastic Hazards Among Industrial Workers.			

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பிளாஸ்டிக் பொருட்களினால் உண்டாகும் விளைவுகள்

ஆசிரியரின் பெயர்	:	எபின் பீட்டர்
தலைப்பு	:	பிளாஸ்டிக் பொருட்களினால் உண்டாகும் விளைவுகள்
இடம்	:	அரசு ஆரம்பப்பள்ளி, பாலம்பட்டி
நேரம்	:	30 நிமிடங்கள்
பயிற்று மொழி	:	தமிழ்
கற்பிக்கும் முறை	:	விளக்கம் மற்றும் உரையாடல்

பொதுவான குறிக்கோள்கள் :

பாட நிகழ்ச்சியில் குழந்தைகள் பிளாஸ்டிக் உபயோகத்தினை பற்றியும், பிளாஸ்டிக்கால் ஏற்படும் பாதிப்புகளை தடுக்கும் முறைகளை பற்றியும் போதிய தகவல்களை அறிந்து கொள்ளலாம்.

முக்கிய கருப்பொருள்:

- பிளாஸ்டிக் வரையறை
- பிளாஸ்டிக்கினால் ஏற்படும் பயன்களின் பட்டியல்
- பிளாஸ்டிக் பயன்படுத்துவதினால் ஏற்படும் எதிர்விளைவுகளின் பட்டியல்
- பிளாஸ்டிக் பயன்படுத்துவதால் மனிதர்களுக்கு ஏற்படும் தீங்குகளின் விவரம்
- பிளாஸ்டிக் பயன்படுத்துவதால் கடற்கரையோரங்களில் ஏற்படும் தீங்குகளின் விவரம்
- பிளாஸ்டிக் பயன்படுத்துவதால் சுற்றுச்சூழலில் ஏற்படும் தீங்குகளின் உரையாடல்
- பிளாஸ்டிக்கை பயன்படுத்துவதால் விலங்கினங்களுக்கு ஏற்படும் தீங்குகளை கூறுதல்
- பிளாஸ்டிக்கை பயன்படுத்துவதால் ஏற்படும் தீங்குகளை தவிர்க்கும் முறைகள்

முக்கிய நோக்கம்	பொருளடக்கம்	ஆசிரியரின் செயல்	மாணவர்களின் செயல்	தீர்வு
	முன்னுரை: பிளாஸ்டிக் பொருட்களை உபயோகப் படுத்துவதினால் கழிவுநீர் மற்றும் மழைநீர் அதில் தேங்கி, நோய் வருவதற்கு முக்கியமான காரணியாக உள்ளது. பிளாஸ்டிக் பைகள் தேவைக்கேற்ற அளவிலும், வடிவத்திலும், எளிதில் உபயோகப்படுத்தக் கூடியதாகவும் உள்ளதால், மக்கள் அதை அதிக அளவில் பயன்படுத்துகிறார்கள். இன்றைய குழந்தைகள் நாளைய தலைவர்கள் எனவே பிளாஸ்டிக் பொருட்களை உபயோகப்படுத்துவதால் உண்டாகக்கூடிய எதிர்விளைவுகளைப் பற்றி அவர்களிடம் எடுத்துக் கூறுவதன் மூலம் மாற்றத்தைக் கொண்டு வந்து வளமான எதிர்காலத்தை உருவாக்கமுடியும்.			
பள்ளி குழந்தைகளால் பிளாஸ்டிக்கை வரையறுக்க இயலும்	**பிளாஸ்டிக் என்றால் என்ன?** பிளாஸ்டிக் என்பது ஒரு செயற்கையான முறையில் தொழிலக பயன்பாட்டுக்காக உருவாக்கப்படும் ஒரு வகை திண்மப் பொருளாகும்.	பிளாஸ்டிக்கின் வரையறையை விளக்குதல்	பிளாஸ்டிக்கின் அர்த்தத்தை புரிந்து கொள்ளுதல்	பிளாஸ்டிக்கை வரையறு?
பள்ளி குழந்தைகளுக்கு பிளாஸ்டிக்கின் பயன்களை பட்டியலிட இயலும்	**பிளாஸ்டிக்கின் பயன்கள்** 1. வீடு கட்டுவதற்கு பிளாஸ்டிக்கை உபயோகப்படுத்துவதினால் மின்சாரம் மற்றும் எரிபொருள் உபயோகத்தைக் குறைக்கிறது. 2. பொருட்களை எடுத்துச் செல்வதற்கு மிகவும் எளிமையான உபகரணமாகும். 3. தொலைபேசி, கணினி, குளிர்சாதனப்பெட்டி மற்றும் சமையல் உபகரணங்களில்	பிளாஸ்டிக்கின் பயன்களை பற்றி உரையாடுதல்	பிளாஸ்டிக்கின் பயன்களை பற்றிய விவரத்தை அறிந்து கொள்ளுதல்	பிளாஸ்டிக்கின் பயன்களை பட்டியலிடு?

	பிளாஸ்டிக்கைப் பயன்படுத்துவதால் அதிக நாட்கள் உபயோகப்படுத்தக் கூடியதாகவும், துருப்பிடிக்காமலும் இருக்கும். 4. பொருட்களைப் பத்திரமாகவும், சூடு குறையாமல் பாதுகாப்பாக எடுத்துச் செல்லவும் உதவுகிறது.			
பள்ளி குழந்தைகளுக்கு பிளாஸ்டிக்கை பயன்படுத்துவதால் ஏற்படும் பொதுவான ஆபத்துக்களை விவரிக்க இயலும்.	**எதிர்விளைவுகள்** 1. மனிதர்களுக்கு ஏற்படும் தீங்குகள் 2. கரையோர நிலங்களுக்கு ஏற்படும் பாதிப்புகள் 3. சுற்றச்சூழலில் ஏற்படும் மாற்றங்கள் 4. விலங்குகளுக்கு ஏற்படும் தீங்குகள்	பிளாஸ்டிக்கால் ஏற்படும் ஆபத்துக்களை விளக்குதல்	குறிப்பு எடுத்தல்	பிளாஸ்டிக்கின் ஆபத்துக்களை பட்டியலிடு?
பள்ளி குழந்தைகளுக்கு பிளாஸ்டிக்கை பயன்படுத்துவதால் மனித இனத்திற்கு ஏற்படும் ஆபத்துகளை விவரிக்க இயலும்.	**1. மனிதர்களுக்கு ஏற்படும் தீங்குகள்:** பிளாஸ்டிக் தயாரிப்பதற்கு பிஸ்பினாயில்-எ என்னும் ஒருவகை வேதிப்பொருள் பயன்படுத்தப்படுகிறது. அந்த வேதிப்பொருளானது இதயநோய், சர்க்கரை நோய், கல்லீரல் மாறுபாடுகள் முதல், வளரும் குழந்தைகளிடையே மூளை நோய்கள் மற்றும் ஹார்மோன் பிரச்சினைகள் வரை பல்வேறு நோய்கள் ஏற்பட முக்கிய காரணமாகும். அது மட்டுமில்லாமல் மார்பகம் மற்றும் கர்ப்பபை புற்றுநோய், கரு கலைதல் ஆகியவை ஏற்படும் வாய்ப்பு உள்ளது. பிளாஸ்டிக் பொருட்களில் சமைக்கக்கூடிய உணவுப்பொருட்களில் சூடு காரணமாக பிளாஸ்டிக் உருகி உணவுப்பொருட்களில் கலந்து நோய் வரக்கூடிய அபாயம் உள்ளது. பிளாஸ்டிக் பொருட்களை எரிப்பதன் மூலம் மனிதர்களுக்கிடையே மலட்டுத்தன்மை ஏற்படுகிறது.	பிளாஸ்டிக்கால் மனிதர்களுக்கு ஏற்படும் தீங்குகளை எடுத்துரைத்தல்	பிளாஸ்டிக் பயன் படுத்துவதால் மனிதர்களுக்கு ஏற்படும் ஆபத்துக்களை புரிந்து கொள்ளுதல்	பிளாஸ்டிக்கை பயன் படுத்துவதால் மனிதர்களுக்கு ஏற்படும் ஆபத்துக்களை விவரி?

பள்ளி குழந்தைகளால் பிளாஸ்டிக்கை பயன்படுத்துவதால் கடலோரங்களில் ஏற்படும் ஆபத்துக்களை வரையறுக்க இயலும்.	**2. கரையோர நிலங்களுக்கு ஏற்படும் பாதிப்புகள்** கரையோரப் பகுதிகளில் உள்ள உயிரினங்களில் வயிறு மற்றும் தசைப் பகுதிகளிலும் பிளாஸ்டிக் துகள்கள் கண்டறியப்பட்டது. கடல் ஆமை, கடல் மீன் மற்றும் கடல் சார்ந்த உயிரினங்கள் சிறிய பிளாஸ்டிக் பைகளை ஜெல்லி மீன் என நினைத்து அதனை விழுங்குவதால் அதன் குடல் பகுதிகளில் அடைப்பு ஏற்பட்டு இறந்து விடுகிறது. விலங்குகள், மீன்கள், திமிங்கலம் மற்றும் கடல் மீன்கள் போன்றவை உணவோடு சேர்த்து பிளாஸ்டிக்கையும் உண்பதால் அவைகளுக்கு உடல் சார்ந்த நலத்திலும் பாதிப்படைகிறது. குப்பை மற்றும் கழிவுப்பொருட்களைக் கடலில் கொட்டுவதால் அதிலுள்ள பிளாஸ்டிக் பைகள் கடலில் மிதந்து கொண்டும், பாதி பிளாஸ்டிக் பொருட்கள் கரையோரத்திலும் தங்கிவிடுகிறது.	பிளாஸ்டிக் பயன்படுத்துவதால் கடலோரங்களில் ஏற்படும் ஆபத்துக்களை பற்றி உரையாடல்	குறிப்பு எடுத்தல்	கடலோரங்களில் பிளாஸ்டிக்கை உபயோகப் படுத்துவதால் ஏற்படும் ஆபத்துக்களை வரையறு
பள்ளி குழந்தைகளால் பிளாஸ்டிக்கை பயன்படுத்துவதால் சுற்றுச்சூழலுக்கு ஏற்படும் ஆபத்துக்களை கூற இயலும்.	**3. சுற்றுச்சுழலில் ஏற்படும் மாற்றங்கள்:** பிளாஸ்டிக் கழிவுகளின் அடைப்புகளால் சாக்கடைகள் மற்றும் நீர்த்தாரைகளில் நீரோட்டத்தைத் தடுக்கின்றது. இதனால் அங்கு கழிவுநீர் அதிகமாக தேங்கப்படுகிறது. இதன் மூலம் நுண்கிருமிகள் மற்றும் பாக்டீரியா வளர்வதற்கு ஏற்ற சூழ்நிலை உண்டாக்கப்பட்டு, நோய்கள் பரவுகின்றன. பிளாஸ்டிக் பைகள் அங்கும் இங்குமாக பறந்து விவசாய நிலத்தை அடைந்து, விதைகள் வளரவிடாமல் தடுக்கிறது. திரும்ப உபயோகித்தல் மற்றும் மறுசுழற்சியைக் குறைத்தல் என்பது சுற்றுச்சூழலின் தாரக மந்திரம் ஆகும். ஆனால் பிளாஸ்டிக் பாட்டில்களைத் திரும்ப	பிளாஸ்டிக் பயன்படுத்துவதால் சுற்றுச்சுழலில் ஏற்படும் மாற்றங்கள் பற்றி விவரித்தல்	கவனித்தல்	சுற்றுச்சூழலுக்கு ஏற்படும் ஆபத்துக்கள்

	திரும்ப பயன்படுத்துவதால், அது தீங்கு விளைவிக்கக்கூடிய வேதிப்பொருட்களை வெளிவிட்டு மிகவும் மோசமான தீங்குகளை விளைவிக்கின்றது. பிளாஸ்டிக் பைகள் கதிர்வீச்சுகளினால் சிதைந்து, சிறுசிறு துகள்களாக மாறுகிறது மற்றும் அதிலிருந்து பெட்ரோ-பாலிமர் என்ற நச்சுப்பொருள் வெளிவருவதால் மண் மற்றும் தண்ணீர் வழிகளில் கலப்படம் ஏற்பட்டு அதன் விளைவாக நுண்துகள்கள் உணவுச் சங்கிலியில் கலக்கிறது. பிளாஸ்டிக் பைகள் எத்தனை வருடங்கள் ஆனாலும் சிதையக்கூடியதல்ல. இதனால் மண்ணின் ஊடுருவும் தன்மை குறைகிறது. மேலும் நிலத்தடி நீரின் சரிவிகித அளவைத் தடுக்கிறது, இயற்கையைச் சீரழிக்கிறது.			
பள்ளி குழந்தைகளால் பிளாஸ்டிக்கை பயன்படுத்துவதால் விலங்குகளுக்கு ஏற்படும் ஆபத்துக்களை கூற இயலும்	**4. விலங்குகளுக்கு ஏற்படும் தீங்குகள்** வீட்டு விலங்குகளான பசு மற்றும் ஆடு, பிளாஸ்டிக் பொருட்களைப் புற்களோடு சேர்ந்து உண்பதால் அது இறப்பதற்குக் கூட வாய்ப்புள்ளது. மீதமுள்ள, வீணான உணவுப்பொருட்கள் பிளாஸ்டிக் பைகளின் மூலம் கீழே போடுவதால் பூனை மற்றும் நாய்கள் அதை உண்ணும்பொழுது மிகவும் மெல்லியதாக உள்ள பிளாஸ்டிக் அதனுடன் சேர்ந்து உண்ணப்படுவதால் இறக்க நேரிடுகிறது. பறவைகள் சிக்கல்களுக்கு உண்டாக்கப்படுகிறது.	பிளாஸ்டிக் பயன்படுத்துவதால் விலங்குகளுக்கு ஏற்படும் தீங்குகள் பற்றி எடுத்துரைத்தல்	மாணவர்களின் கருத்துக்களை பகிர்தல்	விலங்குகளுக்கு ஏற்படும் ஆபத்துகளை குறிப்பிடு?
பள்ளி குழந்தைகளால் பிளாஸ்டிக்கை பயன்படுத்துவதால் ஏற்படும் தீங்குகளை	**தடுக்கும் முறைகள்** • பிளாஸ்டிக் பை மற்றும் பொருட்களுக்குப் பதிலாக வேறு எந்த பொருட்களை உபயோகிப்பது என்று தீர்மானிக்கவேண்டும்.	பிளாஸ்டிக் பயன்படுத்துதலை	குறிப்பு எடுத்தல்	பிளாஸ்டிக் பயன் படுத்துவதால் ஏற்படும்

தவிர்க்கும் முறையை கூற இயலும்	• மிகவும் மெல்லிய பிளாஸ்டிக் பைகள் உபயோகிப்பதை தடுக்கவேண்டும். • பயன்படுத்தி எரியக்கூடிய கிண்ணங்கள் மற்றும் தட்டுகள் போன்றவற்றை உபயோகிப்பதைத் தடுக்கவேண்டும். • துணி, சணல் பேப்பர் மற்றும் கண்ணாடியினால் ஆன பொருட்களைப் பயன்படுத்த ஆரம்பிக்கவேண்டும். • உலோகத்தால் ஆன பாத்திரங்களில் மட்டுமே உணவுப் பொருட்களை வாங்கவேண்டும். • குளிர்பானங்கள் உள்ள பிளாஸ்டிக் பாட்டில்களை தண்ணீர் குடிக்க உபயோகிப்பதைத் தடுக்கவேண்டும். • பிளாஸ்டிக் பாத்திரங்கள் உணவு சம்பந்தமான பொருட்களைத் தயாரிப்பதோ, சூடுப்படுத்துவதையோ தவிர்க்கவேண்டும். • குழந்தைகளுக்கு எந்தவிதமான பிளாஸ்டிக் விளையாட்டு பொருட்களை எக்காரணம் கொண்டும் கொடுக்கக்கூடாது.	தடுக்கும் முறைகளை பற்றி விவரித்தல்		ஆபத்துக்களை தவிர்ப்பதை கூறு.

FLASH CARDS

பிளாஸ்டிக் பொருட்களினால் உண்டாகும் தீமைகள்

முன்னுரை :

பிளாஸ்டிக் பொருட்கள் தேவைக்கேற்ற அளவிலும், வடிவத்திலும், எளிதில் உபயோகப்படுத்தக் கூடியதாகவும் உள்ளதால் மக்கள் அதை அதிக அளவில் பயன்படுத்துகிறார்கள்.

இன்றைய குழந்தைகள் நாளைய தலைவர்கள் எனவே பிளாஸ்டிக் பொருட்களை உபயோகப்படுத்துவதால் உண்டாகக்கூடிய எதிர்விளைவுகளைப் பற்றி அவர்களிடம் எடுத்துக் கூறுவதன் மூலம் மாற்றத்தைக் கொண்டு வந்து வளமான எதிர்காலத்தை உருவாக்க முடியும்.

பிளாஸ்டிக் என்றால் என்ன?

பிளாஸ்டிக் ஒரு வகை திண்மப் பொருள்

பிளாஸ்டிக்கின் பயன்கள்

உணவை சேமிப்பதற்கு

பொருட்கள் வாங்க

மின் பொருட்களின்
உதிரிபாகங்கள் தயாரிக்க

குளிர்சாதனப் பெட்டி
தயாரிக்க

எதிர்விளைவுகள்

மனிதர்களுக்கு ஏற்படும் தீங்குகள்

குழந்தைகளுக்கு ஏற்படும் நோய்கள்

இருதய நோய்

மலட்டுத்தன்மை

கர்ப்பப்பை மற்றும் மார்பகப் புற்றுநோய்

எதிர்விளைவுகள்
கரையோர நிலங்களுக்கு ஏற்படும் தீங்குகள்

நிலங்கள் மாசுபடுதல்

கடல் வாழ் உயிரினங்கள் அழிதல்

எதிர்விளைவுகள்
சுற்றுச்சூழலில் ஏற்படும் தீங்குகள்

மட்க 500 வருடங்களாகும்

நுண்கிருமிகள் பெருகும் வாய்ப்புகள்

நிலம், நீர், காற்று மாசுபடுதல்

சுவாசப்புற்று நோய்

எதிர்விளைவுகள்
விலங்குகளுக்கு ஏற்படும் தீங்குகள்

பிளாஸ்டிக் கலந்த உணவுப்பொருட்களை உட்கொள்ளுதல்

குடல் பகுதியில் அடைப்பு காரணமாக இறப்பு ஏற்படுதல்

தடுப்பு முறைகள்:

துணிப்பை உபயோகித்தல்

பிளாஸ்டிக் உபயோகிப்பதை தவிர்த்தல்

உலோக பாத்திரங்களை பயன்படுத்துதல்

பிளாஸ்டிக் குடிநீர் பாட்டில்களை தவிர்த்தல்

பிளாஸ்டிக் இல்லாத உலகம்

ANNEXURE - G

CERTIFICATE OF VALIDATION

This is to certify that the tool developed by **Mr.ABIN PETER**, Final year M.Sc. Nursing student of Sri Gokulam College of Nursing, Salem (affiliated to Dr.M.G.R. Medical University) is validated and can proceed with this tool and content for the main study entitled **"A Study To Assess The Effectiveness Of A Peer Mediated Teaching On Knowledge Regarding Hazards Of Plastic Use Among School Children In A Selected School , Salem".**

Signature with Date

ANNEXURE - H

LIST OF EXPERTS VALIDATED THE TOOL

1. **Dr. R. Ramalingam, M.D., DCH., F.A.A.P. (USA)**
   Pediatric Consultant,
   Sri Gokulam Hospital, Salem.

2. **Dr. K.Prakash, M.B.B.S., M.BA(HM).,**
   Department of Community Medicine,
   Sri Gokulam Hospital, Salem.

3. **Prof. Dr. Maheswari, Ph.D (N).,**
   Vice Principal,
   Vinayaka Mission Annapoorna College of Nursing,
   Salem.

4. **Mrs. Malathi, M.Sc(N).,**
   Associate Professor,
   Department of Community Health Nursing,
   Vinayaka Mission Annapoorna College of Nursing,
   Salem.

5. **Mrs.Shanmugapriya , M.Sc(N).,**
   Assistant Professor,
   Department of Child Health Nursing,
   Vinayaka Mission Annapoorna College of Nursing,
   Salem.

6. **Mrs. Sathya Lawrence, M.Sc (N).,**
   HOD of Child Health Nursing,
   Apollo College of Nursing, Chennai.

7. **Mrs. Beryl Mohanraj, M.Sc (N).,**
   Principal,
   Servite College of Nursing, Trichy.

8. **Mrs. Kavimani, M.Sc (N).,**
   Principal,
   SPM College of Nursing, Erode.

ANNEXURE - I

St Peter's Matriculation Higher Secondary School

(Permanent Recognition No. 3260 / W12 / 2000 dated 9.2.2001)

Golf Club Road, P.O. Box 8, Kodaikanal - 624 103.

CERTIFICATE OF EDITING

TO WHOMSOEVER IT MAY CONCERN

Certified that the dissertation paper titled "**A study To Assess the Effectiveness of Peer Mediated Teaching on Knowledge regarding Hazards of Plastic use among school Children in a Selected School, Salem".** by Mr. Abin Peter, II year M.Sc Nursing student of Sri Gokulam College of Nursing has been checked for accuracy and correctness of English language usage and that the language used in presenting the paper is lucid, unambiguous free of grammatical or spelling errors and apt for the purpose.

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MOTHER TERESA WOMEN'S UNIVERSITY, COLLEGE.

KODAIKANAL - 624102

Principal. Date 29/12/2011.

Dr.T.M.S.Chandramani Jebarani.

TO WHOMSOVER IT MAY CONCERN

This is to certify that the tool developed by Mr. Abin Peter, II year M.sc nursing student of Sri Gokulam College of nursing. Salem for his dissertation " A study to assess the Effectiveness of a peer mediated teaching on knowledge regarding Hazards of Plastic use among school children in a selected school, Salem" This is edited for Tamil language appropriateness by me.

T.M.S. Chandramani Jebarani

Signature, 29/12/2011.

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UNIVERSITY COLLEGE
KODAIKANAL

ANNEXURE - J
PHOTOS

TRAINING TO THE PEER EDUCATORS

PEER MEDIATED TEACHING